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ABSTRACT

These four annual reports detail Indiana's efforts to enhance computer literacy for teachers and assist in computer instruction in the schools. The consortium was given the responsibility by 1983 legislation to establish regional clearinghouses for computer instruction information, coordinate teacher training in computer instruction skills, and advise the State Board of Education on the administration of the school technology advancement account. Legislation in 1985 added the responsibility of coordinating programs to demonstrate to school corporation personnel the use of computers as instructional tools. Activities undertaken to fulfill these responsibilities are detailed, and information is provided on the funding of specific programs. Charts, graphs, and illustrations are included in the individual reports. (EW)

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Indiana Consortium for Computer and High Technology Education

ANNUAL REPORT
June 30, 1984

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The Indiana Consortium for Computer and High Technology Education was given the following responsibilities by the 1983 General Assembly:

(1) establish regional clearinghouses for computer instruction information;

(2) coordinate the training of teachers in computer instruction skills;

(3) advise the Indiana Commission on General Education on the administration of the school technology advancement account; and

(4) report each year by June 30 to the Governor and the General Assembly on its activities for the year.

In its early meetings, the Consortium developed an action plan to carry out its legislative mandate. Specific goals were adopted in the areas of teacher training, clearinghouses, and funding at the Consortium's second meeting. Subsequently, the "Plan to Provide Training and Information to Support Computer Related Instruction in Indiana Public Schools" was adopted as a program guide for the conduct of Consortium business and for the allocation of the six million dollars ($6,000,000) appropriated for the biennium ending June 30, 1985. The program areas supported by the Consortium are summarized in this report and the summary of budget allocations (Exhibit I) is included.

Basic Computer Literacy Training for Teachers

The basic computer literacy training program established by the Consortium has the capacity for reaching eighteen thousand three hundred (18,300) teachers by June 30, 1985. This represents a substantial penetration (30.75%) of the active elementary and secondary instructional personnel.

The Consortium established the following basic requirements for the computer literacy training:

- Training must consist of minimum of eighteen hours of classroom instruction in a computer laboratory environment.

- The training site should provide the participants with access to computer beyond the 18 hours.

- The laboratory must provide at least one work station for every two participants.

- Training class sizes should ideally be 20 participants per class and should never exceed 30 participants per class.

- Training sites must use the Consortium adopted standard curriculum.

The delivery of basic computer literacy training is the responsibility of nine regional Computer Literacy Training Centers. Ten institutions submitted competitive proposals for the three pilot centers which were funded to start operation in January, 1984. The Consortium named the remaining training sites at its March meeting from twenty proposals received in the second submission. Exhibit II identifies the nine regional Computer Literacy Training Centers and summarizes the impact to date of this program.

Specialized Computer Related Training

The Consortium recognized the need to provide advanced or specialized computer related training for those teachers who are already using the computer effectively as a classroom tool. The advanced training needs are much more diverse than those for the teachers who have little or no experience with instructional computing. It was not practical to offer all of the advanced or specialized training on a statewide basis with standard curricula as was the case with basic computer literacy training. In response to this situation the Consortium adopted three different means of providing specialized computer training, which are summarized below.

Statewide Instructional Computing Conference. A conference intended to provide five to six hundred teachers with an opportunity to exchange program approaches with both their Indiana peers and nationally recognized experts is scheduled for March 17, 18 and 19, 1985.

Summer Teacher Training Institutes. The Consortium set aside $300,000 for summer institutes which are being offered during Summer, 1984 at the State's teacher training institutions. The institutes allow the institutions to develop and deliver innovative computer related training programs and, at the same time, to utilize the existing facilities and expertise.

The institutes resulted when the Consortium recognized that certain specialized programs should be delivered on a statewide basis rather than by the local school corporations. Another reason the Consortium supported the institutes was to encourage teacher training institutions to play an active role in assisting schools in making effective use of advances in information technology. Forty-two competitive proposals were received from teacher training institutions. The Consortium was able to fund 22 separate institutes at eleven institutions for the Summer of 1984. A summary of the various Summer Institute offerings (Exhibit III) is included.

Formula Allocations to School Corporations. The major vehicle for providing specialized computer related training opportunities has been the allocation of $1.1 million dollars to local school corporations. The funds may be used for purposes associated with the Consortium goals so long as it provides advanced or specialized training for instructional personnel employed by the school corporation. This vehicle provides the local school corporation the flexibility to select training participants and to adopt reimbursement practices consistent with local school policies. Applications for using this funding may be made until September 28, 1984. At the time of this report one hundred twelve school districts have submitted applications using $345,654 for the benefit of 2,868 instructional staff members. A table to show local school corporation formula allocations (Exhibit IV) is included.

The following examples of training activities which have already been conducted indicate the variety of approaches that are being used to meet specialized needs.

Beech Grove City Schools--Two Industrial Arts teachers from the high school attended a one-week workshop at Milwaukee Area Technical College at Milwaukee, Wisconsin to receive training on the MATC-CAD computer system. Upon their return the two will conduct inservice for eight other Industrial Arts and Computer teachers.

Carmel Clay Schools--The school administrators notified all teachers about the availability of funds for specialized training and allowed the teachers to submit their own proposals. Five teachers requested support for attending "Introduction to Apple Logo in the Classroom," a workshop sponsored by the Minnesota Educational Computing Consortium.

MSD Mount Vernon (Posey County)--The Business Education teachers who will be using a new computer system for teaching computer programming, word processing and accounting were able to take advantage of specialized training provided by the venor beyond that training that was provided with the procurement.

Hobart Township (Lake County)--Nineteen instructional staff members will have opportunities to receive training to fit individual needs provided by the Northwest Indiana Computer Consortium. The NICC offers a number of workshops and training sessions for the area it serves.

Indianapolis Public Schools--Two hundred-one teachers representing high schools and junior high schools will participate in one of four programs being supported with formula funds. Each teacher will receive reimbursement at a $7.60 per hour rate.

Clearinghouse for Instructional Computing Information

The functions of the Clearinghouse and preview centers are to serve as sources of information for local schools and individual teachers and to promote the exchange of information on programs and practices among the schools. A central Clearinghouse was established in January, 1984 at the Indiana University-Purdue University Indianapolis campus.

The Central Clearinghouse has contracted with external information sources to assist local schools with computer related information. Both print and online information sources are provided for the benefit of all Indiana teachers. Four regional meetings were conducted for the purpose of introducing the Clearinghouse and its information service to school corporation designated contact persons. Eighty-five percent of the school corporations were represented at the meetings where a comprehensive soft-

ware directory, fact sheets and other information were distributed. Since that time, the Clearinghouse has distributed six mailings of special pricing announcements to all corporation contact persons. The mailing list for Printout, the Clearinghouse newsletter, now exceeds 2,500 names.

The Clearinghouse has supported other Consortium efforts with the materials and services received through the statewide contracts it has been able to negotiate. The nine Computer Literacy Training Centers and all summer institute programs have been supplied with copies of the material developed at the Clearinghouse and subscriptions to items acquired through the contracts. Fourteen presentations, workshops and exhibits have been provided by the Clearinghouse for professional associations.

The Regional Clearinghouse, located at the same site as the Central Clearinghouse, operates a preview center which has provided the opportunity to evaluate software and hardware to approximately 500 educators since the first of February. The Regional Clearinghouse staff have conducted 51 workshops on various topics related to instructional computing for local school systems and other educational groups.

At its June meeting the Consortium reviewed an options paper, prepared by the Clearinghouse staff, and adopted a plan to establish up to four regional preview centers, each of which will be located at one of the computer literacy training sites. The Consortium has reserved a maximum of $40,000 for the operation of each preview center. The new preview center sites will be announced in July, 1984 and will operate throughout the life of the legislation.

School Technology Advancement Account

The Consortium recommended guidelines to the Commission on General Education for the administration of the School Technology Advancement Account, established within the existing Common School Fund, to provide low interest loans to school corporations for the purchase of computer equipment and software.

The Commission on General Education subsequently adopted rules concerning the criteria and priorities for awarding grants and the terms and conditions of the advancements. The Commission approved the petitions in accordance with the rule at its February meeting. Fifty-eight school corporations were granted the loans totaling $5 million for the fiscal year ending June 30, 1984. The State Board of Education will receive petitions for the second fiscal year and will award the loans in September, 1984. A list of recipient school corporations is attached (Exhibit V).

The Indiana Consortium for Computer and High Technology Education will continue to execute its responsibility in the next fiscal year. An August 13, 1984 meeting has been scheduled for the purpose of assessing ongoing activities and for recommending a future course of action to the Governor and General Assembly.

Indiana Consortium for Computer and High Technology Education

Summary of Funds Allocated to Consortium Programs

Basic Computer Literacy Training for Teachers	
– Teacher Training Centers (9)	$1,516,192
– Teacher Stipends/Substitute Pay	1,756,800
– Program Development and Coordination	100,000
Total-Basic Computer Literacy	$3,372,992
Specialized Computer Related Training	
– Statewide Instructional Computing Conference	$ 100,000
– Summer Teacher Training Institutes	294,423
– Formula Allocation to Local School Corporations	1,100,000
Total-Specialized Training	$1,494,423
Clearinghouses for Instructional Computing Information	
– Central and Regional Clearinghouses in Indianapolis	$ 435,000
– Reserved for Regional Preview Centers (4)	160,000
Total-Clearinghouses	$ 595,000
Budget Reserve and Consortium Operations	$ 537,585
Total Consortium Budget	$6,000,000

Exhibit I

Indiana Consortium for Computer and High Technology Education

Regional Teacher Training Center Program Status Summary

Region and Contracted Teacher Training Center	Contract Amount: Center Operations	Contract Amount: Stipends Substitute Pay	Number of Instructional Personnel: Training Objective	Number of Instructional Personnel: Trained to Date	Number of Instructional Personnel: Region Total	Number of Instructional Personnel: % of Region Funded
I) Northwest Indiana Computer Consortium (Gary)	$239,525	240,000	2,500	796	9,233	27.1%
II) Elkhart Comm. Schs. (Elkhart)	$184,370	192,000	2,000	240	6,387	31.3%
III) Ft. Wayne Comm. Schools (Ft. Wayne)	$176,848	192,000	2,000	160	6,361	31.7%
IV) Clinton Prairie Sch. Corp. (Frankfort)	$143,600	192,000	2,000	257	6,094	32.8%
V) Indianapolis Public Schools (Indianapolis)	$170,690	192,000	2,000	164	9,016	22.2%
VI) Ball State Univ. (Muncie)	$129,133	192,000	2,000	400	6,046	33.1%
VII) Indiana University (Bloomington)	$171,364	192,000	2,000	219	4,972	40.2%
VIII) Indiana State Univ. Evansville (Evansville)	$136,843	172,800	1,800	846	4,333	41.5%
IX) Wilson Education Center (Jeffersonville)	$163,819	192,000	2,000	1,005	6,085	32.9%
TOTAL	$1,516,192	$1,756,800	18,300	4,087	58,527	

*shaded areas represent regions which began January 1984; others began April 1984

Exhibit II

Indiana Consortium for Computer and High Technology Education

Summer Institute Summary

COLLEGE/UNIVERSITY	INSTITUTE TITLE(S)	NUMBER OF TEACHER PARTICIPANTS	NUMBER OF APPLICANTS	FUNDING LEVEL
Ball State University	Applications of Microcomputers in the Humanities	20	30	$16,626
	Administrative Utilization of Software for Educational Data Management and Planning	20	32	$16,625
	Designing, Selecting, and Adapting Software for Use with Exceptional Children	20	22	$16,625
Indiana University at Bloomington	Microcomputer Applications in Special Education	20	43	$11,868
	Microcomputer Graphics for Art Teachers	24	60	$17,274
	Selection, Adaptation and Utilization of Software for Elementary Teachers (K-6)	24	180	$9,279
	Training Teachers in Logo	18	60	$7,120
Indiana University Purdue University at Fort Wayne	(Phase I) Institute for Secondary Teachers of English	30	75	$17,792
Indiana University Purdue University at Indianapolis	The Word Processor in the Writing Process	24	154	$11,379
Indiana State University Evansville	A Computer Literacy Seminar at Indiana State University Evansville	30	28	$7,640

COLLEGE/UNIVERSITY	INSTITUTE TITLE(S)	NUMBER OF TEACHER PARTICIPANTS	NUMBER OF APPLICANTS	FUNDING LEVEL
Indiana State University Evansville	A Seminar in Advanced Training with Microcomputer Applications for Business Education Teachers	30	30	$9,368
Indiana State University Terre Haute	Applications of Microcomputer Technology to the Work of the School Counselor	60	55	$28,606
Manchester College	Microcomputer Applications and Interfacing for Secondary School Science Teachers	16	22	$10,864
Purdue University Calumet	Microcomputers for Counselors	25	25	$8,850
	Microcomputers for Media Specialists	25	60	$6,610
	Microcomputers in the Secondary Science Curriculum	25	35	$7,840
	Wordprocessing for Teachers	25	28	$7,900
Purdue University West Lafayette	A Summer Teacher Training Institute for Advanced Computer Education Training in the areas of:			
	1. Vocational Education	30	50	$12,458
	2. Math and Science	30	50	$12,458
	3. Media and Library Science	30	50	$12,459
Saint Francis College	Summer Computing Institute for Teachers	40	39	$16,160
Taylor University	Integrating Language Arts and Social Studies Computer Software Into the Elementary Curriculum	64	126	$20,049
		630	1256	$285,850

Indiana Consortium for Computer and High Technology Education

Formula Allocations - Specialized Computer Training

Name	Alloc.$	Name	Alloc.$	Name	Alloc.$
Adams Central	2,052	Fairfield	2,082	Northwestern	2,304
North Adams	2,739	Baugo	1,992	New Castle	5,118
South Adams	2,157	Concord	3,789	Charles A. Beard	2,173
MSD SW Allen	3,360	Middlebury	2,965	Taylor	2,673
NW Allen County	2,967	Wa-Nee	3,120	Northwestern	2,513
Fort Wayne	26,364	Elkhart	10,005	Eastern Howard	1,982
East Allen	8,801	Goshen	4,106	Western	2,929
Bartholomew	9,895	Fayette County	5,508	Kokomo Center	8,304
Flat Rock Hawcreek	1,904	New Albany-Floyd	9,804	Huntington Co.	5,956
Benton Community	2,769	Attica	1,816	Carr Township	1,268
Blackford	3,389	Covington	1,882	Seymour	4,076
Western Boone	2,453	S.E. Fountain	2,142	Brownstown Central	2,445
Eagle Union	2,602	Franklin County	3,491	Crothersville	1,594
Lebanon	3,455	Union Township	1,073	Kankakee Valley	3,269
Brown County	2,772	Rochester	1,462	Rensselaer Central	2,377
Carroll Cons.	2,038	Caston	1,698	Jay School	4,729
Delphi	2,383	East Gibson	2,127	Madison Cons.	4,005
Pioneer Regional	1,904	North Gibson	2,919	SW Jefferson	2,415
Southeastern	2,777	South Gibson	2,355	Jennings County	4,596
Logansport	4,714	Eastbrook	2,546	Clark Pleasant	2,897
West Clark	3,748	Madison Grant	2,655	Center Grove	4,946
Clarksville	2,173	Mississinewa	3,079	Edinburgh	1,970
Greater Clark	10,457	Marion Community	7,824	Franklin Comm.	3,678
Clay	4,542	Bloomfield	1,995	Greenwood	3,499
Clinton Central	1,964	Central	1,289	N-H-Jackson	2,329
Clinton Prairie	1,850	Eastern	1,843	North Knox	2,414
Frankfort	3,461	Linton-Stockton	2,100	South Knox	1,980
Rossville	1,626	MSD Shakamak	1,812	Vincennes	3,697
Crawford County	2,573	Washington Stafford	1,340	Lakeland Comm.	3,380
Barr-Reeve	1,476	Worthington Jeff.	1,269	Warsaw	5,302
North Daviess	2,046	Hamilton S.E.	2,705	Tippecanoe Valley	2,606
Washington	2,897	Hamilton Heights	2,435	Whitko	2,626
Sunman-Dearborn	3,376	Westfield-Wash.	2,097	Prairie Heights	2,344
South Dearborn	3,336	Marion-Adams	1,877	Westview	2,398
Lawrenceburg	2,396	Carmel-Clay	7,126	Lakeland Corp.	2,719
Decatur County	3,013	Noblesville	4,207	Hanover	1,986
Greensburg	2,765	Southern Hancock	2,625	Hobart Township	2,521
DeKalb Co. Eastern	2,626	Greenfield Central	3,972	Merrillville	5,505
Garrett-Keyser	2,191	Mt. Vernon	2,812	Lake Central	5,766
DeKalb Co. Central	3,882	Eastern Hancock	2,049	Tri-Creek	3,513
Delaware Community	3,647	Franklin Twp.	1,444	Lake Ridge	3,529
Harrison-Washington	1,954	North Central	2,732	Crown Point	5,044
Liberty-Perry	2,153	South Harrison	3,193	East Chicago	6,910
Monroe Community	1,651	NW Hendricks	2,110	Lake Station	2,528
Mt. Pleasant Twp.	2,746	Brownsburg	3,890	Gary	24,817
Salem	1,653	Avon	3,234	Griffith	3,001
Muncie	9,874	Danville	2,415	Hammond	11,951
Northeast Dubois	1,838	Plainfield	3,457	Highland	4,017
Southeast Dubois	2,032	Mill Creek	2,342	Hobart	3,861
Southwest Dubois	2,331	Blue River Valley	1,862	Munster	3,492
Greater Jasper	3,005	South Henry	1,808	Whiting	1,500

Name	Alloc.$
Cass Township	1,240
Dewey Township	1,198
New Prairie United	2,770
New Durham Twp.	1,543
Prairie Twp.	1,000
Michigan City	8,207
South Central	1,623
LaPorte	6,134
North Lawrence	5,594
Mitchell	2,781
West Central	3,137
South Madison	3,693
Alexandria Comm.	2,835
Anderson	12,546
Elwood	2,870
MSD Decatur	5,525
Franklin Twp.	4,420
MSD Lawrence	8,311
MSD Perry	11,633
MSD Pike	3,964
MSD Warren	10,034
MSD Washington	9,224
MSD Wayne	12,130
Beech Grove	2,480
IPS	37,996
Speedway	2,103
Culver	1,957
Argos	1,556
Bremen	2,049
Plymouth	3,099
Triton	1,794
Shoals	1,692
Loogootee	1,986
Maconaquah	3,229
North Miami	2,066
Oak Hill United	2,363
Peru	3,397
Richland B.B.	3,053
Monroe County	9,302
N. Montgomery	2,637
S. Montgomery	2,559
Crawfordsville	2,861
Monroe-Gregg	2,115
Eminence	1,388
MSD Martinsville	5,499
Mooresville	3,828
North Newton	2,617
South Newton	1,787
Central Noble	1,960
East Noble	3,946
West Noble	2,533
Rising-Sun-Ohio	1,717
Orleans	1,609
Paoli	2,316
Springs Valley	1,816

Name	Alloc.$
Spencer-Owen	3,071
Southwest Parke	1,932
Rockville Cons.	1,778
Turkey Run	1.587
Perry Central	1,887
Cannelton	1,285
Tell City-Troy	2,756
Pike County	2,897
Boone Township	1,751
Duneland	4,920
Morgan Township	1,377
Pleasant Township	1,577
Porter Township	2,226
Union Township	2,099
Washington Twp.	1,368
Portage Township	8,042
Valparaiso	4,888
MSD Mt. Vernon	3,161
MSD of North Posey	2,315
New Harmony	1,206
Eastern Pulaski	2,122
West Central	1,844
South Putnam	2,043
North Putnam	2,108
Cloverdale	1,859
Greencastle	2,424
Union Corporation	1,629
Randolph Southern	1,673
Monroe Central	2,030
Randolph Central	2,752
Randolph Eastern	1,917
South Ripley	2,120
Batesville	2,244
Jac-Cen-Del	1,777
Milan	1,937
Rushville	3,616
John Glenn	2,273
Penn-Harris-Madison	6,202
Mishawaka	5,185
South Bend	18,376
Union-North	2,185
Scott #1	2,386
Scott #2	3,193
Shelby Eastern	2,389
Northwestern	2,374
Southwestern	1,642
Shelbyville Central	3,818
North Spencer	2,644
South Spencer	2,327
Oregon-Davis	1,617
North Judson	2,273
Knox	2,781
Fremont	1,704
Hamilton	1,538
MSD Steuben County	2,873

Name	Alloc.$
Northeast	2,609
Southwest	2,633
Switzerland Co.	2,160
Lafayette	7,007
Tippecanoe	6,984
West Lafayette	2,453
Northern	1,913
Tipton	2,655
Union County	2,325
Evansville	19,101
North Vermillion	1,832
South Vermillion	2,810
Vigo	15,315
Manchester	2,434
MSD Wabash Co.	3,425
School City Wabash	2,605
MSD Warren County	2,231
Warrick County	8,198
Salem Community	2,746
East Washington	2,013
West Washington	1,939
Nettle Creek	2,134
Western Wayne	2,133
Centerville-Ab	2,419
Northeastern Wayne	2,076
Richmond	7,639
Southern Wells	1,772
Northern Wells	2,869
Bluffton-Harrison	2,344
North White	1,834
Frontier	1,641
Tri-County	1,659
Twin Lakes	3,187
Columbia Township	1,305
Etna-Troy	1,148
Jefferson	1,182
Smith-Green	2,084
Thorncreek	1,369
Union Township	1,209
Washington Twp.	1,129
Columbia City	2,361

Indiana Consortium for Computer and High Technology Education

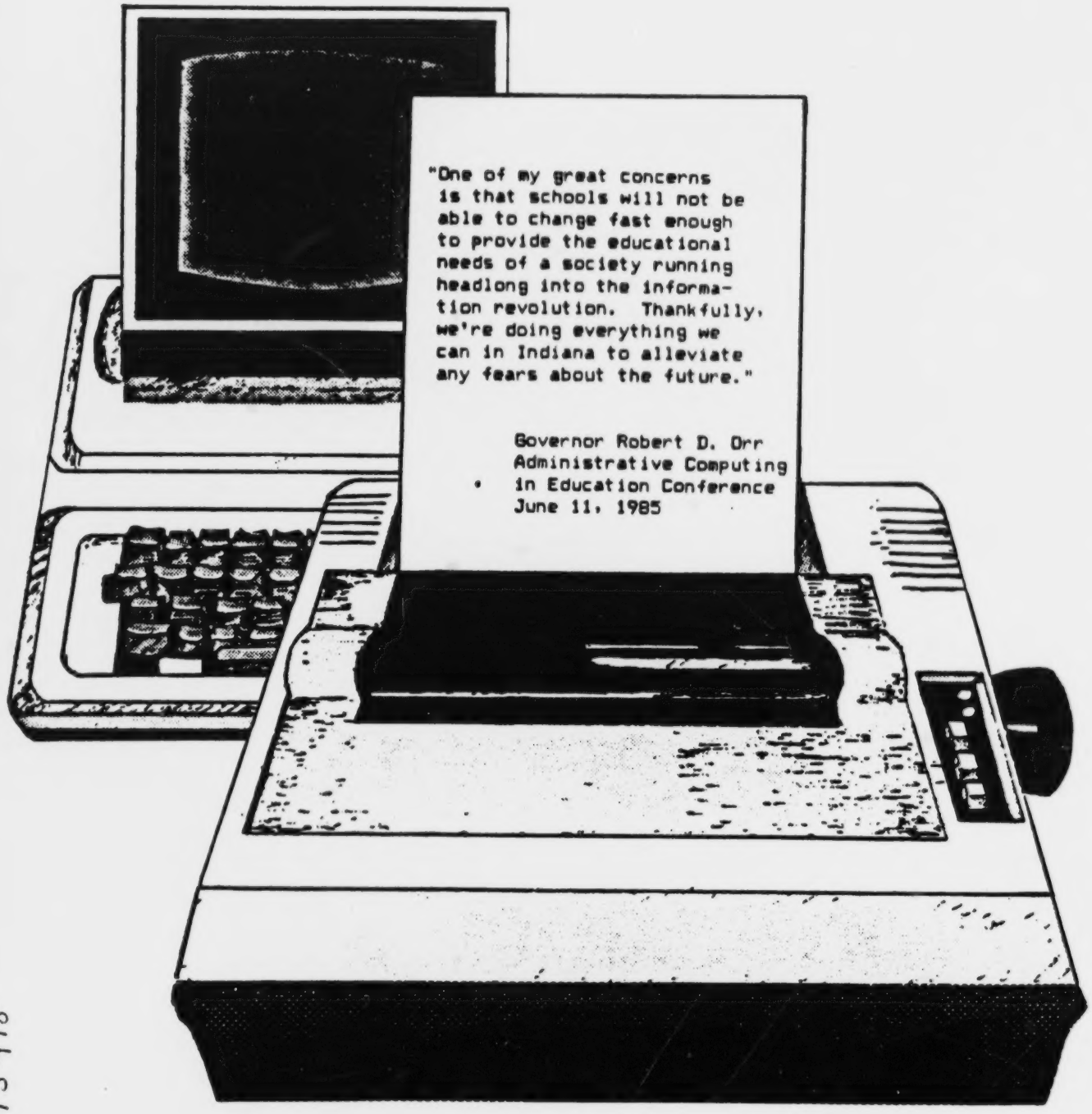
Summary of School Technology

Advancement Account Low Interest Loans

School District	Amount Approved	Student Population
Hobart Township	$38,900	2,961
School City of Whiting	20,000	645
Jennings County Schools	90,000	4,364
Elwood Community School Corp.	46,120	2,526
School City of Hobart	74,500	3,698
Gary Community School Corp.	588,910	30,580
Western School Corp.	48,500	2,474
Paoli Community School Corp.	33,280	1,680
Porter Township Corp.	25,000	1,633
Greater Clark County Schools	238,000	11,901
Mooresville Consolidated Sch. Corp.	71,240	3,616
Scott County School District #2	56,000	2,777
Crown Point Community School Corp.	101,800	5,031
Avon Community School Corp.	56,420	2,811
West Central Community School Corp. (Pulaski County)	53,500	1,089
Portage Township Schools	179,360	9,178
Carr Township	20,000	335
Flat Rock-Hawcreek	23,500	1,169
School Town of Highland	76,500	3,832
Lake Central School Corp.	122,000	6,094
Garrett-Keyser-Butler Community Schs.	30,500	1,509
Penn-Harris-Madison Schs.	127,500	6,150
Mitchell Community Schs.	45,000	2,247
MSD of Martinsville	109,690	5,677
Tell City-Troy Twn.	45,020	2,255
Mill Creek Community School Corp.	32,790	1,630
Salem Community Schools (Washington County)	40,000	2,224
South Montgomery Schs.	40,160	2,022
Community School Corp. of Southern Hancock County	40,000	2,015
South Ripley Community School Corp.	28,500	1,407
North Gibson Schools	40,000	2,469
New Castle Community School Corp.	103,000	5,171
Eastern Howard School Corp.	24,500	1,220
North Judson San Pierre Schools	32,500	1,619
Southwest Dubois County Schools	33,670	1,687
Union Township Schools (Porter County)	28,500	1,356
Danville Community School Corp.	35,340	1,800
Northeast Dubois Schools	21,000	1,082
Jay School Corp.	91,000	4,720
Logansport Community School Corp.	80,000	4,943
Monroe County Community School Corp.	200,000	10,446
New Prairie United School Corp.	44,320	2,208
Dekalb County Central United School District	73,500	1,444
Laporte Community School Corp.	125,000	6,516
Batesville Community School Corp.	31,250	1,604
Bremen Public Schools	27,000	1,334
Ft. Wayne Community Schools	649,000	32,433
Tipton Community School Corp.	42,000	2,170
Rochester Community School Corp.	37,500	1,863
MSD Southwest Allen County Schools	59,000	2,875
North Putnam Community School Corp.	28,000	1,879
Goshen Community Schools	78,660	3,911

School District	Amount Approved	Student Population
Twin Lakes School Corp.	$55,500	2,992
Covington Schools	21,500	1,080
Bartholomew Consolidated School Corp.	221,900	10,691
Elkhart Community Schools	227,300	11,391
South Central Community School Corp.	20,000	783
Lafayette School Corporation	66,370	7,709
TOTAL	$5,000,000	

Indiana Consortium for Computer and High Technology Education


"One of my great concerns is that schools will not be able to change fast enough to provide the educational needs of a society running headlong into the information revolution. Thankfully, we're doing everything we can in Indiana to alleviate any fears about the future."
Governor Robert D. Orr
Administrative Computing in Education Conference
June 11, 1985

IR013418

Annual Report

June 30, 1985

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The Indiana Consortium for Computer and High Technology Education was given the following responsibilities by the 1983 General Assembly:

(1) establish regional clearinghouses for computer instruction information;

(2) coordinate the training of teachers in computer instruction skills;

(3) advise the State Board of Education on the administration of the school technology advancement account; and

(4) report each year by June 30 to the Governor and the General Assembly on its activities for the year.

In the first year of the biennium, the Consortium developed an action plan to carry out its legislative mandate. Specific goals were adopted in the areas of teacher training and clearinghouses. A budget was developed to allocate funds to each of the Consortium's programs. During the second year of the biennium plans were refined to meet changing needs of the school community and all programs were implemented in accordance with the "Plan to Provide Training and Information to Support Computer Related Instruction in Indiana Public Schools," adopted by the Consortium in January, 1984.

The work of the Consortium has been well received by Indiana teachers, school administrators and other segments of the school community. As evidenced by the "States to Watch" column in Electronic Learning magazine the Consortium program has brought national attention to Indiana's instructional computing efforts. (Exhibit I)

The program areas, supported by the six million dollar ($6,000,000) appropriation, and other Consortium activities are summarized in this report. The budget indicating where program funds were expended is attached. (Exhibit II)

Basic Computer Training for Teachers

While the goal for the basic computer training program was to reach fifteen thousand (15,000) teachers by June 30, 1985, the Consortium allocated funds for eighteen thousand three hundred (18,300) teachers in the event that every session was filled to capacity in every regional site. Three basic training sites were funded in January, 1984, and the remaining six sites were named in March, 1984. To date, seventeen thousand two hundred eighty five (17,285) teachers, a penetration of 29.5% of the schools' instructional personnel, have received training. Regional totals are reported on Exhibit III.

The Consortium established the following basic requirements for the computer literacy training:

- Training must consist of a minimum of eighteen hours of classroom instruction in a computer laboratory environment.
- The training site should provide the participants with access to a computer beyond the eighteen hours.
- The laboratory must provide at least one work station for every two participants.
- Training class sizes should ideally be twenty participants per class and should never exceed thirty participants per class.
- Training sites must use the Consortium adopted standard curriculum.

The Consortium commissioned a study by Resources Development Company, an Indianapolis firm, in Spring, 1985. The purpose of the project was to gather information about the extent of need for the basic computer training program in 1985-87. The Consortium used the information from the study in developing plans for the biennium that begins July 1, 1985. It was concluded that basic computer training should only be supported through August, 1985, except in instances where the training would be initiated by local school corporations. The training expectations for July and August and the related costs are reported on Exhibit IV.

Specialized Computer Related Training

The Consortium recognized the need to provide specialized computer related training for those teachers who were already using the computer effectively as a classroom tool. Because the advanced training needs are much more diverse than those for teachers with little computer experience, the Consortium adopted three different means of providing opportunities for specialized computer training, which are summarized below.

Conferences

The Conference on Instructional Computing, designed for teaching personnel in Indiana school districts, was held in Indianapolis on March 17, 18, and 19, 1985. School districts were allocated from one to five delegates, based on the student population of the corporation. The conference was attended by 435 delegates, representing 257 school corporations (82.5% of school corporations) and 105 guests (Consortium members, Department of Education staff, presiders and other governmental officials).

A conference jury reviewed 109 applications, filed by potential presenters, and selected 42 speakers for the conference. Seventy-two presentations,

covering forty-five topics, were made during the conference. A follow-up evaluation was conducted approximately one month after the conference. From the evaluations, the staff and Consortium declared the conference a success.

The Administrative Computing in Education (ACE) Conference, designed for Indiana school administrators, was held in Indianapolis on June 11 and 12, 1985. The Conference was attended by one hundred ninety five (195) local school administrators representing 104 school corporations (34% of school corporations) and 35 guests (Consortium members, presiders, Department of Education staff and other governmental officials).

The ACE Conference featured curricular as well as administrative computer applications in a total of eight (8) concurrent sessions. Two of the eight sessions were "application centers" where participants worked hands on with wide variety of application packages. Twenty-five (25) representatives from the private sector worked with participants in the "application centers" to answer questions and explore available software.

A one-time panel discussion session featured three (3) members of the Consortium who fielded questions about what direction Indiana schools should head in the coming years in their uses of computers. Valuable exchanges which fostered greater understanding of the Consortium and its goals came from the panel discussion.

Based on preliminary information from the evaluations and feedback from participants at the conference, the conference is judged to be a success.

Summer Teacher Training Institutes

The Consortium recognized that certain training programs should be delivered on a statewide basis rather than at the local school level specifically when an activity is of a specialized nature or when the potential number of participants is limited. At the same time the Consortium recognized the vital role that the teacher training institutions could play in advancing the use of information technology in schools and in meeting those specialized needs. The result was summer teacher training institutes.

The Consortium funded twenty-two (22) institutes at eleven (11) institutions for the summer of 1984. Descriptions of those institutes were included in the first Annual Report on June 30, 1984.

In 1985 the Consortium received forty-four (44) proposals from twelve (12) teacher training institutions. The Consortium was able to fund twenty-six (26) institutes to be held in the summer of 1985. (Exhibit V)

Formula Distributions to School Corporations

The major vehicle for providing specialized computer related training opportunities has been the allocation of $1.1 million to local school corporations. The funds may be used for training purposes for instructional personnel employed by the school corporation. This vehicle provided local

schools with the flexibility to select training participants and adopt reimbursement practices consistent with local policies. Applications were filed by 282 school corporations which represent 92.8% of all Indiana districts. The Consortium members were pleased that the varied training programs served 10,505 school instructional personnel which is 18% of the full time public school teachers and administrators. Selected program activities are reported in Exhibit VI.

Clearinghouses/Preview Centers

Indiana Clearinghouse for Computer Education

The Consortium established the Indiana Clearinghouse for Computer Education (ICCE) on the campus of Indiana University Purdue University at Indianapolis in January of 1984. ICCE provides educators throughout the state with a full range of services to assist in the selection and utilization of computer hardware and software for instructional purposes.

Among the services provided by ICCE is a Preview Center which allows Indiana educators to preview hardware and software in advance of purchase. The center currently contains fourteen (14) different types of computers, representing those commonly used for instructional purposes in Indiana schools. Also included is an expanding collection of software which currently numbers in excess of 1500 titles. The majority of the programs are related to instruction, representing all grade levels and virtually all subject areas. A small percentage of the collection represents administrative programs appropriate for school administrators.

Most of the hardware and all of the software in the Preview Center collection has been donated by vendors. In addition to the hardware and software, a collection of print and nonprint materials related to instructional computing is also available. Since opening in February of 1984, the Center has received 2338 Indiana educators.

ICCE staff members also provide consultant services via telephone and on-site visits. Programs included in on-site services are workshops conducted for local school personnel and professional organizations. To date, 5343 educators have participated in ICCE-sponsored workshops and presentations.

Access to thousands of reviews of hardware and software products is provided to Indiana teachers by the Clearinghouse. The reviews have been collected from a variety of national, regional, and local sources and are available online and in hard copy format. The ICCE staff has obtained copyright clearance for the materials in order to make them available to Indiana educators upon request.

A collection of publications relative to instructional technology is maintained at the Clearinghouse for distribution upon request. A newsletter, the PRINTOUT, is published bi-monthly during the school year and made available to Indiana teachers without charge upon request. Currently, 4073 educators are receiving the PRINTOUT on a regular basis.

Preview Centers

In the second year of the biennium, four of the Regional Training sites were awarded grants of $40,000 each to operate a courseware preview center. Those centers are located in the following locations:

Northwest Indiana Computer Consortium - Highland
Fort Wayne Community Schools
Indiana State University-Evansville
William E. Wilson Education Center - Jeffersonville

The collections are used for training purposes and for preview by school personnel.

School Technology Advancement Account

In its second year, the School Technology Advancement Account of the Common School Fund had available five million for low interest loans to school corporations for the purchase of computer equipment and software. Petitions from school corporations were approved by the State Board of Education in September, 1984. A list of recipient school corporations is attached. (Exhibit VII)

Reprinted Courtesy of Scholastic Inc.

INDIANA: STATE CONSORTIUM FOR HIGH TECHNOLOGY

A state-funded organization provides resources and guidance.

BY TOM SPAIN

Tom Spain is an associate editor of Electronic Learning.

A STATE COMPUTER LITeracy mandate places large demands on a state's educational system. Indiana educators and government officials have risen to the challenge of an April 1983, mandate (requiring that all school systems offer computer literacy programs by September 1984), and have developed a statewide organization designed to guarantee schools access to the resources and guidance they need to meet the mandate's requirements. The Indiana Consortium for Computer and High Technology Education provides training and information dissemination in a variety of formats. With initial funding of $6 million, the Consortium has already initiated the following programs:

- A teacher training program, conducted through nine teacher-training centers located throughout the state, designed to provide basic computer literacy training to 18,300 elementary and secondary teachers by June 1985
- A fund for local school districts to use at their discretion to provide more specialized training for their educators who already have some experience in computing
- A Clearinghouse for Instructional Computing Information, to supply information about hardware, software, and other resources.

In addition, the Consortium advises the state Commission on General Education in the administration of its School Technology Advancement Account, which has to date provided over $10 million in low-interest loans to school corporations for equipment and software purchases.

Illustration by Ed Little

State Board of Education Chairman Harold Negley, who chairs the Consortium, reports that the programs are "a tremendous success." And, he points out, the greater the success of the Consortium, the greater are the chances that the state's school corporations will provide the kind of computer education that supporters of the mandate had in mind. Here, then, is a closer look at each of the programs, and some reasons why they have already met with success.

Training: A "Substantial" Target

As of January 1985, some 11,000 Indiana teachers have received basic computer literacy training through the Consortium—a figure that, according to state instructional media director Phyllis Land Usher, is right on schedule to meet their June target. Ultimately, about a third of all elementary and secondary teachers will go through the basic program, and many more will participate in advanced programs, adding up to what Negley considers "a substantial penetration" of the state educator population. Adds Usher, while the Consortium "recognizes that all educators should have such training," officials aren't convinced that it's the state's responsibility to support up to 100 percent penetration.

All of the educators in the basic program receive roughly the same training, thanks to a series of Consortium guidelines. Each of the nine centers offers a course consisting of at least 18 hours of hands-on training in a computer lab, with no more than two participants per work station. The Consortium has adopted a standard curriculum, developed and tested in the four initial pilot training centers. The training ranges from discussion of the history and uses of computers to the legal issues surrounding the use of software, to an introduction to programming and hands-on experience with commercial software.

A great deal of flexibility is allowed the participants in the more special-

EXHIBIT I

ELECTRONIC LEARNING
PUBLISHED BY SCHOLASTIC INC.
February 1985

ized training sponsored by the Consortium. Rather than adopting a single curriculum that would try to address the varied needs of experienced computer-using educators, the Consortium provides specialized training in three formats: A statewide computing conference (scheduled for next month); summer teacher-training institutes; and grants to local school corporations to spend at their own discretion to meet the needs of their educators. Over $1 million has been allocated for such grants, which often fund educators' participation in training programs sponsored by outside sources, such as vendors, universities, and other state consortia. Five educators in the Carmel Clay schools, for example, paid for a visit to a MECC Logo workshop with Consortium funds.

Clearinghouse: Previews, Reviews

Once educators have developed the know-how to evaluate software packages, they can put that ability into practice at the software preview center at the Consortium's central clearinghouse, established in January, 1984 at the Indiana University-Purdue University Indianapolis campus. With a software library that tops 800 titles, the clearinghouse's preview center has already played host to over 1000 Indiana educators. Smaller preview centers, independent of the clearinghouse, are also in operation at four of the regional training centers.

The clearinghouse also maintains an extensive library of print and on-line information about software and equipment, including that which is available through its statewide contract with EPIE (Educational Products Information Exchange), and publishes a newsletter that reaches almost 4000 educators a month. In addition, the clearinghouse offers workshops, presentations, and exhibits, and maintains a toll-free number for help and information.

School Technology Account

To guarantee that educators have the resources at their schools to apply their newly found expertise, the Consortium aids in the administration of the School Technology Advancement Account, which provides low-interest loans for school purchases of microcomputer hardware and software. Chairman Negley reports that over $10 million has been lent so far, and that the Consortium will request legislation to continue the loan program for two more years.

Getting the money for the loan program, Negley explains, required some fancy fund-shuffling that could be a model for other educators looking for state funds for micros. All STAA loans come from the state's Common School Fund, earmarked in the state constitution for building and equipping schools. "We determined that it was legal to use this money for micros and software," says Negley, "because they are school equipment—albeit in a very modern sense." It remains to be seen whether other states with similar measures can find state funds by applying the same principles.

The Future: New Directions

The future of the Consortium, of course, rests on the state legislature's funding decisions. Negley feels confident that this spring's legislative session will fund Consortium activities through the spring of 1987. He doesn't foresee the training programs lasting indefinitely, however. "We do have in mind ending it eventually," he says, "once a sufficient body of educators has been exposed to the training. At some point we'll need to promise the legislature we won't continue spending their money forever."

Until that point, at least in the immediate future, the training programs will place greater emphasis on specialization. "In the future we'll have a greater need for training that's more sophisticated than the beginning, concentrated training. While the particulars of much of this specialized training will still be left up to the individual school corporations, the Consortium is also interested in setting up experimental projects.

Projects may vary from concentrated computer applications in particular curriculum areas to trial alternatives to the computer lab setup (currently predominant in Indiana schools). These projects will not be presented as model applications that should be copied, Usher says. Rather, they will be used to determine just where and how the computer can best be used.

Indiana Consortium for Computer and High Technology Education

Summary of Funds Expended for Consortium Programs

Basic Computer Literacy Training for Teachers	
- Teacher Training Centers (9)	1,815,235
- Teacher Stipends/Substitute Pay	1,740,768
- Program Development and Coordination	100,000
Total-Basic Computer Literacy	3,656,003
Specialized Computer Related Training	
- Statewide Computing Conferences	101,450
- Summer Teacher Training Institutes	416,092
- Formula Allocation of Local School Corporations	1,003,117
Total-Specialized Training	1,520,659
Clearinghouses for Instructional Computing Information	
- Central and Regional Clearinghouses in Indianapolis	447,000
- Reserved for Regional Preview Centers (4)	160,000
Total-Clearinghouses	607,000
Consortium Operations	108,481

EXHIBIT II

Indiana Consortium
for Computer and High Technology Education

REGIONAL TEACHER TRAINING CENTER PROGRAM SUMMARY

Region and Contracted Teacher Training Center	Total Number of Teachers in Region	Teachers Trained 7/1/84 - 6/30/85	Total Trained 1/84 - 6/85	% of Teachers Trained in Region
I. Northwest Indiana Computer Consortium (Gary)	9,233	1,762	2,558	27.7%
II. Elkhart Community Schools (Elkhart)	6,387	1,652	1,892	29.6%
III. Fort Wayne Community Schools (Ft. Wayne)	6,361	1,453	1,613	25.4%
IV. Clinton Prairie School Corp. (Frankfort)	6,094	1,667	1,924	31.6%
V. Indianapolis Public Schools (Indianapolis)	9,016	1,434	1,598	17.7%
VI. Ball State University (Muncie)	6,046	1,493	1,893	31.3%
VII. Indiana University (Bloomington)	4,972	1,197	1,416	28.5%
VIII. Indiana State Univ. Evansville (Evansville)	4,333	1,031	1,877	43.3%
IX. Wilson Education Center (Jeffersonville)	6,085	1,509	2,514	41.3%
TOTAL	58,527	13,198	17,285	29.5%

Indiana Consortium for Computer and High Technology Education

BASIC TRAINING FOR SUMMER 1985
(July & August)

Training Site	No. of Teachers to be Trained	Funding Level
REGION I Northwest Indiana Computer Consortium	168	23,225.00
REGION II Elkhart Community Schools	120	22,222.00
REGION III Fort Wayne Community Schools	130	26,500.00
REGION IV Clinton Prairie School Corporation	150	22,250.00
REGION V Indianapolis Public Schools	138	23,948.00
REGION VI Ball State University	120	20,037.00
REGION VII Indiana University	120	18,687.00
REGION VIII Indiana State University-Evansville	120	19,866.00
REGION IX Wilson Education Center	142	23,265.00
	1208	$200,000.00

EXHIBIT IV

Indiana Consortium for Computer and High Technology Education

SUMMER INSTITUTE SUMMARY

COLLEGE/UNIVERSITY	INSTITUTE TITLE	NO. OF PARTICIPANTS	FUNDING LEVEL
Ball State University	Designing Computer Assisted Instruction for Exceptional Learners	18	$12,048*
Earlham College	Acceleration	20	$15,700*
Indiana State University	Administrative Utilization of Software for Educational Data Management & Planning	60	$26,360
	Applications of Microcomputer Technology for School Counselors	60	$24,520*
	Computer Media Center Management	22	$17,923*
Indiana State University Evansville	Databases in Social Studies	20	$7,245
	Microcomputers in the Science Laboratory	16	$7,591*
	Pascal for Secondary Computer Science Teachers	20	$7,613*
Indiana University Northwest	Advanced Training in the Interfacing of Microcomputers in the Secondary Science Curriculum	15	$8,930*
Indiana University VES	Integrating an On-Line Agriculture Information Network into the Classroom	37	$8,926*
Indiana University Bloomington	Instructional Software and the Early Childhood/Elementary School Teacher	40	$12,436
	Microcomputer Graphics for Teachers	24	$18,170*
Indiana University Purdue University at Indianapolis	Logo for Elementary Teachers	20	$8,690*
	Using Microcomputers for Improving Testing and Measurement Skills	20	$8,331*

EXHIBIT V

Manchester College	Microcomputer Applications and Interfacing for Secondary School Science Teachers	14	$15,680
Purdue University Calumet	Advanced Applications of Microcomputers and School Media Specialists	20	$8,160
	Computers in Elementary School Mathematics	20	$7,198
	Computers in Foreign Language Education	20	$8,387*
	Computers in Kindergarten and Primary Education	20	$7,805
	Integrating the Computer into Teaching Writing Across the Curriculum	20	$6,959
	Microcomputers and the School Library and School Media Specialist	20	$8,141
Purdue University Fort Wayne	Integrating the Computer into the Elementary Reading Program	20	$14,667*
	Computer Assisted Instruction	28	$15,524*
	Using the Computer to Teach Secondary/Middle School Students to Write	20	$8,527*
	Using the Computer to Teach Social Studies in the Secondary/Middle School	20	$8,527*
University of Evansville	An Introduction to Telecommunications for Educators	11	$13,354
		625	$307,412

*To be paid from 1986 allocation.

Indiana Consortium for Computer and High Technology Education

FORMULA ALLOCATION PROGRAMS TO LOCAL SCHOOL CORPORATIONS

Selected Program Activities

Adams Central Community Schools

Program provided inservice training in several areas; courseware evaluation, integration of computers into the curriculum, and elementary programming concepts (BASIC & LOGO).

Southwest Allen County Schools

Workshop sessions included LOGO, Super Pilot, Grade Book, and Basic Programming.

Northwest Allen County Schools

A series of workshops and graduate courses included: Computers and Programming, Word Processing Application, Microprocessor Workshop, and Methods of Using Microcomputer Assisted Instruction.

Fort Wayne Community Schools

Training was provided on word processing with the Bank Street Writer Program, the Logo programming language, its use in the learning environment and describing problem-solving algorithms via flowcharts. Participants received additional training on methods of integrating CAI software as well as the above into the K-5 curriculum.

East Allen County Schools

Training took place in two basic ways. The first related to training secondary teachers to teach word processing and programming and the second area pertained to training elementary teachers in using various teacher utilities in classroom management as well as integrating computer software into the curriculum.

Bartholomew Consolidated School Corporation

Many training activities took place including topics such as: Using the School-bus Network with the Apple IIe Computers, Exploring Logo for Primary and Intermediate Children, Problem Solving with Computers, Evaluation and Selection of Word Processing Software for High School Business Department Classes, Training in Computer Literacy Curriculum Development, Problem Solving in Science Through Computers, Using the Apple-Writer Word Processor, Logo for Elementary Teachers and Lessons in Beginning BASIC.

Eagle-Union Community School Corporation

A goal was to train one teacher from each elementary building in the school district who in turn would teach Logo programming to students and other teachers in fundamental programming concepts. Teachers were also trained in computer literacy curriculum development.

SCHOOL TECHNOLOGY ADVANCEMENT ACCOUNT
Loans for Period Ending June 30, 1985

Expenditures*

Instructional Purposes Only

Elkhart Community Schools	$150,000
Avon Community Schools	70,000
Northwestern School Corp.	59,762
Eastern Howard Community	38,676
Whitko Community Schools	65,530
Griffith Public Schools	75,000
New Prairie United Schools	40,000
South Central Community	20,000
MSD Lawrence Township	267,910
MSD Warren Township	306,176
Shoals Community Schools	25,000
South Montgomery Comm.	63,493
Turkey Run Community	20,000
School City of Mishawaka	168,435
Fremont Community Schools	30,412
Evansville-Vanderburg	144,000
North White Schools	12,387
Warrick County	181,300
North Adams Community	25,000
Delphi Community Schools	36,080
North Montgomery Schools	41,400
Beech Grove City Schools	35,000
North White	21,500
Benton Community Schools	45,000
	$1,942,061

Instruction/Management

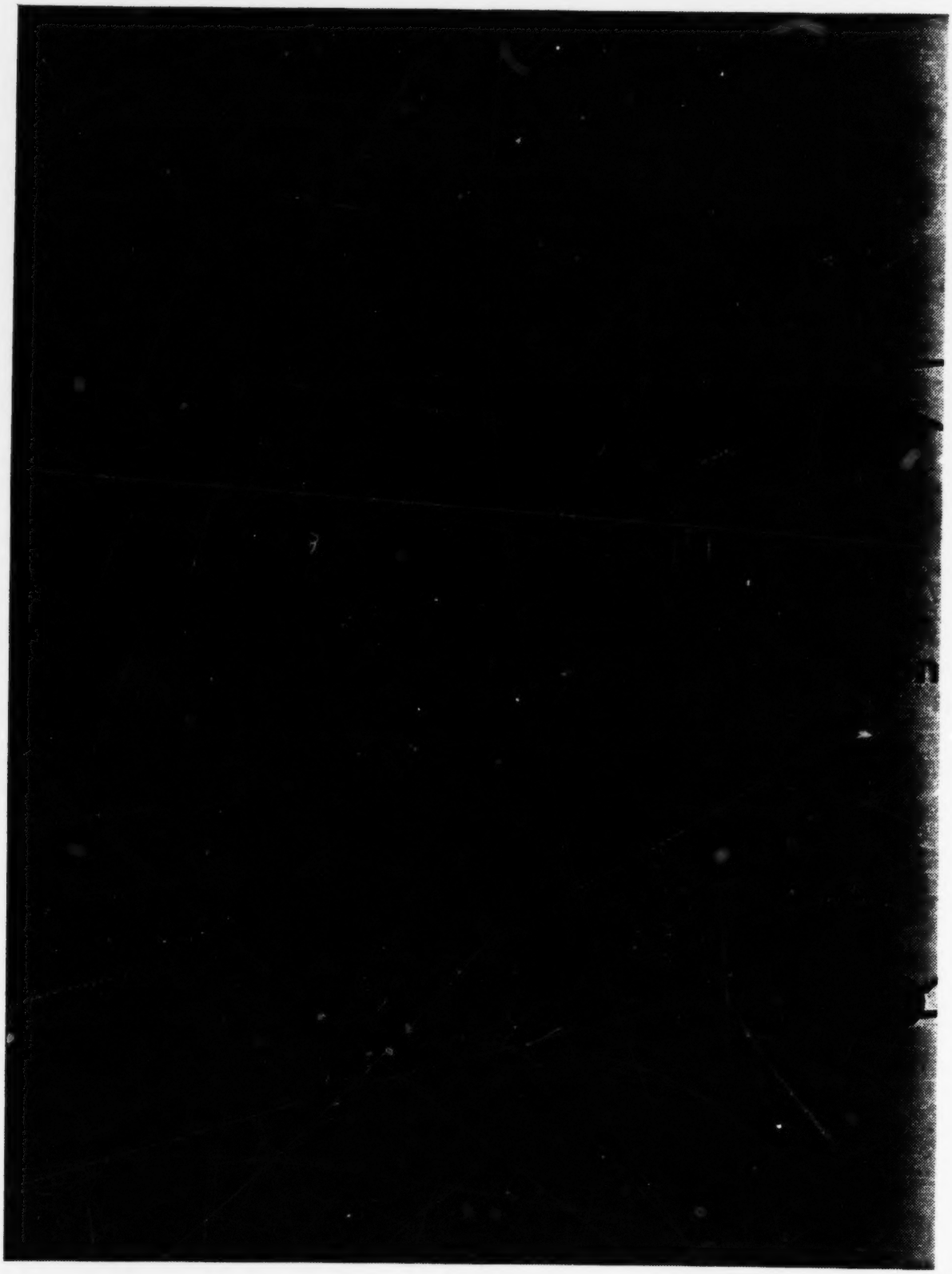
Fort Wayne Community	$1,025,871
Mt. Pleasant Township	69,817
Central School District	25,000
Gary Community Schools	961,374
Pike County Schools	75,762
Tippecanoe Schools	88,149
Lafayette School Corp.	233,630
Lawrenceburg Community	26,158
MSD Mt. Vernon	55,500
Clay Community Schools	60,000
	$2,621,261

Management Purposes Only

Wa-Nee Community Schools	$85,279
Blue River Valley Schools	34,689
LaPorte Community Schools	85,000
Tippecanoe Schools	150,000
Lakeland Community Schools	60,500
	$415,468

*$21,210 was not claimed by one school corporation

EXHIBIT VII



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Indiana Consortium for Computer and High Technology Education

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INTRODUCTION

Legislation enacted in 1985 by the Indiana General Assembly directed the Indiana Consortium for Computer and High Technology Education to do the following:

(1) Coordinate programs to demonstrate to school corporation personnel the use of computers as instructional tools;

(2) Establish regional clearinghouses for computer instruction information;

(3) Coordinate training of teachers in computer instruction skills;

(4) Advise the board on the administration of the school technology advancement account as created under section 4 of this chapter.

The Consortium members, in the early part of the biennium, adopted a plan to carry out the provisions of the legislation. The 1985-1987 plan was designed to complement the activities conducted by the Consortium in the 1983-1985 plan. This report will include background information from the previous biennium when necessary to more fully explain current activities.

The report is divided into the following sections:

I. Demonstration Projects

- A. Local Initiative Grants
- B. Self Contained Classroom Grants
- C. Other Consortium Supported Demonstration Efforts

II. Level II Teacher Training

III. Indiana Clearinghouse for Computer Education and Preview Centers

IV. Specialized Computer Related Training

- A. Summer Teacher Training Institutes
- B. Formula Allocations to School Corporations

V. School Technology Advancement Account

I. DEMONSTRATION PROJECTS

In response to the language of the 1985 legislation which directed the Consortium to "coordinate programs to demonstrate to school corporation personnel the use of computers as instructional tools", the Consortium set aside $1.0 million. The use of these funds has resulted in a wide variety of innovative demonstration sites throughout the state.

Local Initiative Programs

In response to specific criteria established by the Consortium, schools were given the opportunity to apply for a maximum grant of $60,000. Funds were to be used for innovative, creative uses of computers specifically tailored to meet the needs of the local school. Recipient school corporations agreed to allow educators from across the state an opportunity to visit and review their program in operation. Programs funded under this effort will operate during the 1986-1987 school year.

A total of 83 proposals were received and reviewed. Eight (8) projects were awarded, descriptions of which are included in Exhibit A. Funds in the amount of $317,460 were approved for expenditure.

Self Contained Classroom Programs

In an effort to demonstrate the effects of computers on instruction in a self contained classroom, the Consortium agreed to fund a total of nine (9) sites, one in each regional computer training area. The maximum grant amount was $20,000, which could be used to purchase up to 13 computers. A student/computer ratio of no greater than 2:1 was required. Local school corporations were required to contribute one quarter of the total grant amount, some or all of which could be in-kind contributions. Portions of the grant were set aside for the curriculum modification activities necessary to take full advantage of computers in the classroom.

In response to the Consortium's request for proposals, 68 proposals were received. Nine projects were funded for a total of $178,424. The Self Contained Classroom demonstration programs will operate during the 1986-1987 school year. (Exhibit B)

Other Consortium Supported Demonstration Efforts

Recognizing that the high technology and computer applications available to local schools are many, the Consortium's plan for 1985-1987 included interactive video, new technology and other subject area applications. The

following descriptions explain the Consortium's efforts in a variety of high technology demonstration areas.

MULTI-TERM CLASSROOM PROJECT

Teachers in selected Evansville-Vanderburgh Community School Corporation classrooms will be able to determine within seconds whether students in the classroom understand critical concepts being taught. In cooperation with the University of Evansville, Multiterm technology will allow small hand-held terminals to be placed at each student's desk. Tests, quizzes, and general question and answer sessions can be recorded via the Multiterm units. Overall classroom performance information as well as individual responses can then be displayed on a single classroom terminal.

Using this technology, teachers will be able to individualize instruction and re-explain key information. Classroom performance information can also be displayed graphically. This project will be available for viewing by other teachers in the state during the 1986-1987 school year. Evaluation information will be provided by the University of Evansville.

INSTALLATION OF HIGH PERFORMANCE SYSTEM

Demonstration Project funds have been used to provide ongoing support for the WICAT HYDRA installation at Ft. Wayne Community School Corporation. The system, installed at Arlington Elementary School, provides a wide variety of courseware for children coupled with an extensive classroom management system. Operation of the system began during the 1985-1986 school year and will continue to be available for visitation by Indiana educators during the 1986-1987 year.

INTERACTIVE VIDEO

Students in physics classes at Vigo and Clay County Schools will be able to use interactive video to enhance studies of key physics concepts as a result of a cooperative effort between the Consortium, Rose Hulman Institute, and Vigo and Clay County Schools. Interactive video applications take advantage of digitally encoded video together with computer programming to produce a highly effective means of instruction.

Rose Hulman personnel are producing the video disc and preparing the program. Use of the materials will begin in high school classes during the 1986-1987 school year. Educators from across the state may visit Vigo County Schools or Clay County Schools for a demonstration.

II. LEVEL II TRAINING

In its first biennium, the Consortium conducted a successful teacher training program which exposed more than 18,000 Indiana teachers to basic computer skills. Over 31% of the active Indiana teaching force was reached in this effort.

In developing its plan for the 1985-1987 biennium, the Consortium realized that while this basic training had been necessary, and had proved helpful to Indiana teachers, more advanced training would be needed if computer usage was to become an integral part of the curriculum in Indiana schools. Therefore, a more advanced training plan was established. The objectives for this effort were to:

- Provide more specialized training at various grade levels in a number of curriculum areas;
- Place the emphasis of training on the integration of computers into the curriculum;
- Allow teachers to use software in their specific area and/or grade level;
- Focus training on key building level teachers who will return to their districts and share their knowledge with their peers;
- Develop a network of district resource persons who will be responsible for providing computer training at the local level; and
- Initiate training efforts compatible with training provided through summer institutes and formula allocation programs.

The Consortium adopted a training design that included the creation of standardized training modules. The modules, to be developed by the regional training center personnel, could be used in all areas of the state, thereby meeting the needs of individual school corporations. Deciding to use the regional centers (See map - Exhibit C) for training of personnel and development of modules, made possible the use of existing trained staff, existing hardware and software, and eliminated expensive startup costs.

Centers were directed to coordinate development of modules and delivery of services to schools. (Exhibit D) For the fourteen month period July 1, 1985 through August 31, 1986, the following quotas were established for training:

REGION	PROJECTED TRAINING DAYS	TOTAL DAYS-JUNE 30, 1986
I	2,561	2,121
II	1,766	850
III	1,766	1,252
IV	1,686	1,336
V	2,495	1,870
VI	1,669	540
VII	1,378	1,141
VIII	1,199	796
IX	1,685	1,364
TOTAL DAYS	16,206	11,270*

*It is anticipated that the projected quota will be met after the summer training schedule is completed.

The total number of training days delivered as of June 30, 1986 is reflected above. Each module takes an average of two days to present. Therefore, approximately 8,000 will be directly trained, with additional numbers trained when trainees return to the local school site.

III. INDIANA CLEARINGHOUSE FOR COMPUTER EDUCATION AND PREVIEW CENTERS

The Indiana Clearinghouse for Computer Education (ICCE) began operation on the campus of Indiana University Purdue University at Indianapolis, in January, 1984. ICCE is designed to serve as a source of information about computer technology for Indiana school corporations and individual teachers. The Clearinghouse has contracted with several print and on-line information sources for the latest information on educational computing.

Among the services provided by ICCE is a software preview center which contains about 1,700 titles in its collection. Over 600 school personnel have visited the preview center in the past year. Upon request from local school corporations, ICCE staff who are familiar with the software will take parts of the collection for on-site demonstrations. Over 900 teachers have participated in 53 of these on-site efforts over the past year. (Exhibit E) Software contained in the preview center is mostly related to instruction, representing all grade levels and most subject areas.

ICCE also shares part of the software collection with the other four (4) preview centers located throughout the state. This practice allows various packages to be made available to teachers within their geographic area, while also saving the added cost of purchasing duplicate software for each center. A total of 292 teachers of mathematics, social studies, science and language arts attended 14 of these shared software sessions. (Exhibit F)

During 1985-1986 ICCE co-sponsored conferences with the Indiana Department of Education and the State Board for Vocational and Technical Education. Another conference was held in conjunction with Purdue University to address the rapidly growing area of Computer Assisted Design and Manufacturing (CAD). This workshop was focused on industrial arts teachers. Administrators and curriculum coordinators attended a workshop conducted in June 1986 which addressed the issues of evaluating a local school computer education program. Participants worked on preliminary plans to develop evaluation objectives, instruments and processes for their local school program. At least four (4) additional conferences are scheduled for the coming year.

PRINTOUT, published five times a year by the Clearinghouse, is sent to more than 1,500 Indiana educators. PRINTOUT disseminates information about new materials and other Consortium activities of interest to teachers, and highlights successful implementations of high technology in Indiana classrooms. (Exhibit G)

IV. SPECIALIZED COMPUTER RELATED TRAINING

SUMMER TEACHER TRAINING INSTITUTES

Summer teacher training institutes, which have proven both successful and popular in previous years, were continued in the 1985-1986 period. Conducted by Indiana teacher training institutions, selection of summer institute proposals is done by the Consortium's summer institute subcommittee. While summer institutes have in the past presented advanced, specialized training, proposal criteria used in the summer 1986 institutes demanded more specialization or difficulty than previous institutes.

In 1986, the Consortium received 43 proposals from 13 teacher training institutions. Twenty four (24) institutes from 11 teacher training institutions were funded for the summer of 1986. A description of these institutes is attached as Exhibit H.

FORMULA DISTRIBUTIONS TO SCHOOL CORPORATIONS

The Consortium's plan for information and training is broad ranging and designed to deliver maximum benefit to Indiana educators. The Formula Allocation program, designed to meet the specialized needs of Indiana schools in the area of computer use, was approved by the Consortium at a $1.1 million dollar level. The basic formula established a base funding level coupled with a set amount times the school's reported average daily attendance. In response to feedback from local schools, the distribution formula was revised in 1985-1987 to provide more base funding, benefitting corporations with small populations.

Applications were received from 223 school corporations which represent 74% of all Indiana districts. Exhibit I includes those corporations requesting Formula Allocation funds as of June 30, 1986. Examples of programs funded with Formula Allocation money are included in Exhibit J.

V. SCHOOL TECHNOLOGY ADVANCEMENT ACCOUNT

The School Technology Advancement Account had available $5 million for low interest loans to school corporations for the purchase of computer equipment and software. A list of school corporations approved for these funds is attached. (Exhibit K)

EXHIBITS

A. LOCAL INITIATIVE GRANT PROJECT ABSTRACTS

B. SELF-CONTAINED CLASSROOM PROJECT ABSTRACTS

C. MAP OF ASSIGNED REGIONS FOR TEACHER TRAINING CENTERS

D. REGIONAL TRAINING WORKSHOP SUMMARY

E.1 CHART OF PREVIEW CENTER PATRONS

E.2 CHART OF ICCE FIELD SERVICES

F. CHART OF SPECIAL PREVIEW SESSIONS

G. PRINTOUT

H. 1986 SUMMER INSTITUTES

I. FORMULA ALLOCATION PROGRAM PARTICIPANTS

J. FORMULA ALLOCATION PROGRAM SELECTED PROGRAM ACTIVITIES

K. SCHOOL TECHNOLOGY ADVANCEMENT ACCOUNT LOANS

LOCAL INITIATIVE GRANT
PROJECT ABSTRACTS

Corporation Name: Clinton Prairie School Corporation

Project Name: The WRITE Way

Funding: $42,000

Description: The project will utilize a networked lab of 12 MACINTOSH Computers with "Macwrite" and ALPS "Writing Lab" software to improve writing skills of tenth, eleventh and twelfth grade students. The project will integrate writing into the curriculum in an attempt to improve overall writing, vocabulary, spelling and other related skills.

Corporation Name: Crawford County Community School Corporation

Project Name: Career Education for Ninth and Sixth Graders

Funding: $46,639

Description: The project will provide structured opportunities for career exploration for 172 sixth grade students and 980 junior and senior high students. Word processing, data base management and other software will be used by students as they explore career opportunities.

Corporation Name: Fort Wayne Community Schools

Project Name: Interactive Video in the Elementary Science Curriculum

Funding: $51,186

Description: Project teachers will create interactive video lessons for existing video disc materials. Approximately 4000 fourth and fifth grade students will participate.

Corporation Name: Linton Stockton Community School Corporation

Project Name: Individualized Instruction via WICAT Hydra System

Funding: $60,000

Description: The Project will install a professional system to serve 330 fourth, fifth and sixth grade students. Teachers will be trained to use reports available to individualize instruction for students. The computer managed instruction aspects of the WICAT System, as well as its ability to individualize instruction, will be examined closely.

Corporation Name: Madison Area Educational Special Services Unit

Project Name: Microcomputer for the Low Incidence Handicapped Student

Funding: $12,750

Description: The project will provide hardware and software that will provide severely handicapped students with a multi-sensory instructional approach and a highly individualized direct learning program. Computers will be equipped with adaptive firmware cards, speech synthesizers, expanded key boards, and key guards to allow the use of mouthsticks, headpointers and hand prods.

Corporation Name: Mississinewa Community Schools

Project Name: The Eduvision Project

Funding: $37,385

Description: The project will affect 900 sixth through eighth grade students. Hardware and software will be used with music, geography, industrial arts, health and other areas of study in an integrated curricular design.

Corporation Name: Monroe County School Corporation

Project Name: Microcomputer Based Laboratories (MBL)

Funding: $51,000

Description: The project will provide for an eight (8) computer laboratory to serve 800 science students into two (2) middle schools. Equipment at each site will be used to collect and analyze data in science projects. Teachers will be trained in each school. If warranted, other teachers will be trained in MBL procedures and techniques.

Corporation Name: Southeast Dubois School Corporation

Project Name: Computers in Industrial Manufacturing

Funding: $16,500

Description: The project will introduce computers in high school metals, graphics, woods and drafting classes and junior high industrial arts classes. Hardware to be purchased in the project includes a Rhino Robot and CNC Lathe.

GRANT AWARD TOTAL: $317,460.00

SELF-CONTAINED CLASSROOM
PROJECT ABSTRACTS

Corporation Name: Tri-Creek School Corporation

Project Name: Betterment of Academic Skills thru Instruction by Computers

Funding: $19,373

Description: The project is based on a fourth grade classroom with special emphasis on individualized instruction according to ability and needs for each student. A control group will be established using another fourth grade classroom. One result of the project will be the determination of the effect that computers can have on a typical classroom when used for instructional support at a 2:1 student/computer ratio.

Corporation Name: Triton School Corporation

Project Name: Consortium Self-Contained Classroom Project

Funding: $20,000

Description: This project has a curriculum that will provide optimum use of computers in a third grade classroom. Students will experience a smooth transition from second grade with a minimum of computer knowledge thru this program and enter fourth grade with two computer labs scheduled weekly. The curriculum will be expanded horizontally to reach higher level thinking skills by using software that requires the student to make responses based on deductions or inferences resulting from applying the knowledge rather than simply recalling it.

Selected software will be chosen to foster three social structures: group settings to stimulate group interaction; two-on-one situations to encourage teamwork; and one-on-one experiences to develop individual skills.

Corporation Name: East Allen County Schools

Project Name: Kids, Computers, and Curriculum

Funding: $20,000

Description: This project will demonstrate the ways in which computers may be integrated into the fourth grade classroom and used as instructional tools. This project will also evaluate the effectiveness of computer integration into the curriculum. Areas of integration include: morning work, mathematics, language arts, Indiana history, science, health and other areas.

Corporation Name: Carmel Clay Schools

Project Name: Self-Contained Classroom Demonstration Project

Funding: $20,000

Description: This project will use the computer to teach some fifth grade subject areas including: language arts, science, social studies, and mathematics. The computer will be used as a learning object not an object of learning. Subjects will not be learned in a vacuum, but skills will be applied in a variety of situations.

Corporation Name: MSD of Warren Township

Project Name: Self-Contained Classroom Demonstration Project

Funding: $20,000

Description: This project will use the computer as a key instructional tool while the teacher will be the most important facilitator of learning. The computer will be used as a device for review, drill, testing, remediation, enrichment, and management in the third grade subject areas of reading, spelling, English, math, science, social studies, and health.

Corporation Name: Fayette County School Corporation

Project Name: Classroom Computer Project

Funding: $19,950

Description: This project will use the computer as an instructional tool in all curricular areas of the fourth grade program. It will use such software as: word processing, data processing, and communications software. With programs the students will develop improved decision-making and problem-solving skills in all areas of instruction.

Corporation Name: MSD of Mount Vernon

Project Name: Consortium Self-Contained Classroom Project

Funding: $19,150

Description: This fourth grade classroom computer project will be used to replace worksheets with more interesting and interactive software programs. This program will also place some emphasis on enrichment in which some art, music and foreign language software will be made available for students who show an interest in these areas. Computer programing skills will be encouraged, but emphasis will not be place upon it.

Corporation Name: Rockville Community School Corporation

Project Name: Self-Contained Classroom Demonstration Project

Funding: $19,951

Description: This fourth grade computer project would provide an effective system for computer aided instruction (CAI). An effort would be made to use CAI whenever it would enhance regular instruction or benefit a students learning style. CAI would be used in the subject areas of reading, math, English, spelling, social studies, health, and science.

Corporation Name: Clarksville Community School Corporation

Project Name: Using Computers - A Classroom Bonus

Funding: $20,000

Description: This fifth grade project will alternate between conventional teacher instruction and computer assisted instruction. Word Processing will have special emphasis place upon it and will be used in the subject areas of language arts, reading, english, spelling, and writing. Students who need either remedial work as well as gifted students will have supplemental individual software.

TOTAL PROJECT GRANT $178,424.00

Assigned Regions for Teacher Training Centers

Region I - Northwest Indiana Educational Service Center

Region II - Elkhart Community Schools

Region III - Fort Wayne Community Schools

Region IV - Clinton Prairie School Corporation

Region V - Indianapolis Public Schools

Region VI - Ball State University

Region VII - Indiana University

Region VIII - University of Southern Indiana

Region IX - William E. Wilson Education Center

Regional Training Workshop
Summary

Total Number of Participants Trained: 5,644

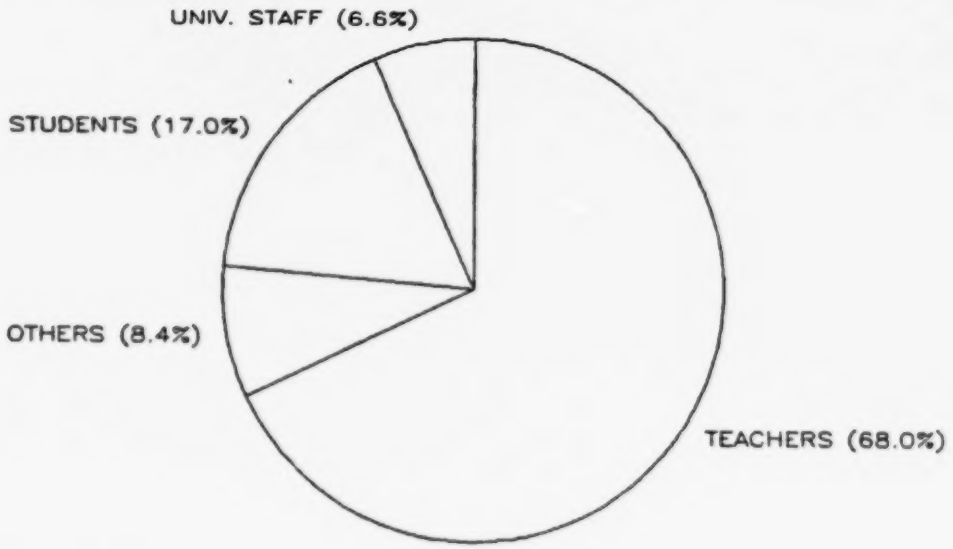
Total Number of Workshops: 552

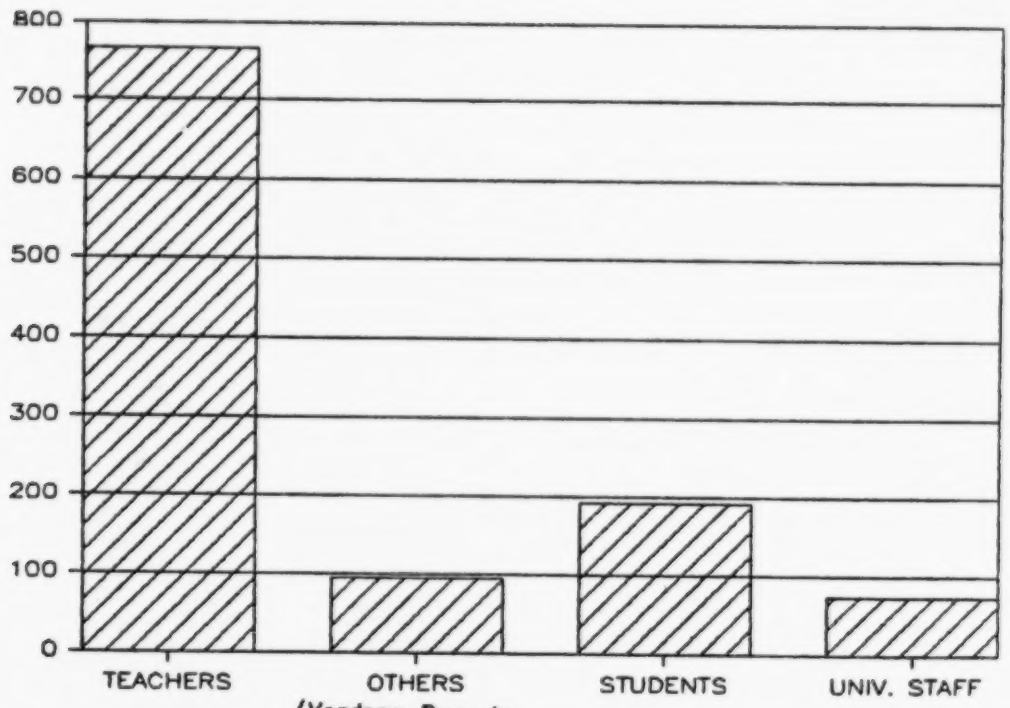
	REGION								
	I	II	III	IV	V	VI	VII	VIII	IX
WORKSHOP									
Teacher Utility Programs for Elementary Teachers	10		2	6	21	3	4	1	3
Software Utilization for Upper Elementary Grades	3		3	4					4
Computer in the Primary Grades	9		4	6		2	6	2	
Teaching Wordprocessing to Elementary Children	18		4				3	2	4
LOGO			3	4	10			1	
Computers in the Elementary Classroom			1		17		4		
Teacher Utilization Programs for Middle School Teachers	14	12	2	5			5	2	4
Data Base in the Social Studies Class	4	14	4	5	10	1	2	4	4
Data Base in the Science Curriculum	5		5	4	7		2	2	2
Wordprocessing in the Middle School Language Arts Curriculum		17	3	6	23	3	4	2	2
Using an Electronic Spreadsheet in the Mathematics Classroom	11	8	6	4	8		2	3	4
Teaching Thinking Skills by Computer Simulation			2	5	3		2	1	3
Teacher Utilization Programs for Secondary Teachers	6		1						

WORKSHOP	REGION I	II	III	IV	V	VI	VII	VIII	IX
Wordprocessing in the Secondary English Curriculum			3	4			2	2	2
Integrating Computers into Education: An Administrative Prospective	6	6	3	3	4	1	2		3
Computer Coordinator Workshops			6	5	1				6
Utilities for Aides and Secretaries			3						
Keyboarding	36		1	5	2		3	2	5
Computer Applications for the Special Educator							3		
Computer Applications for the School/Public Health Nurse							5		
Data Bases for the Agricultural Teacher							2		
Applications for Media Professionals				2					
Applications for Student and Classroom Information Management				4					
Integrating Microcomputers into Education: A Guidance Counselor's Prospective					2				
Newspapers and Newsletters								2	
Teacher Utility Programs in the Primary Grades									4
TOTAL	122	57	56	72	108	10	51	26	50

PREVIEW CENTER PATRONS

July 1985 – June 1986



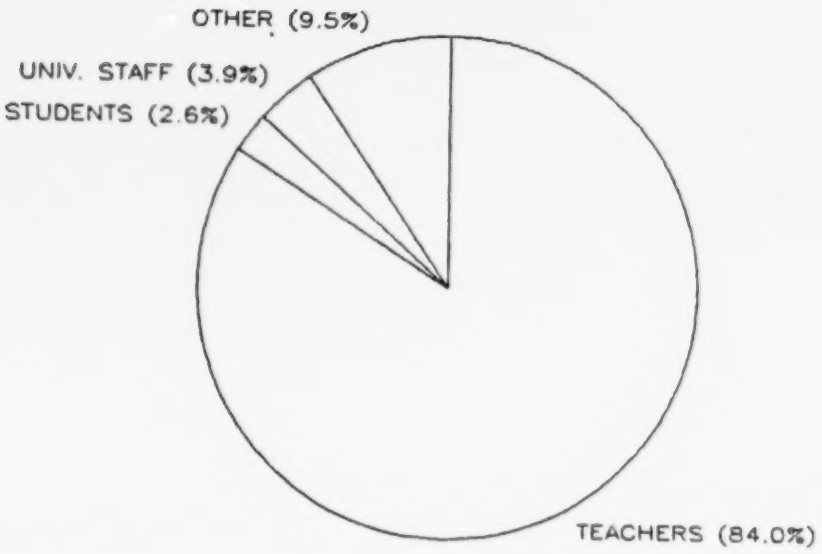


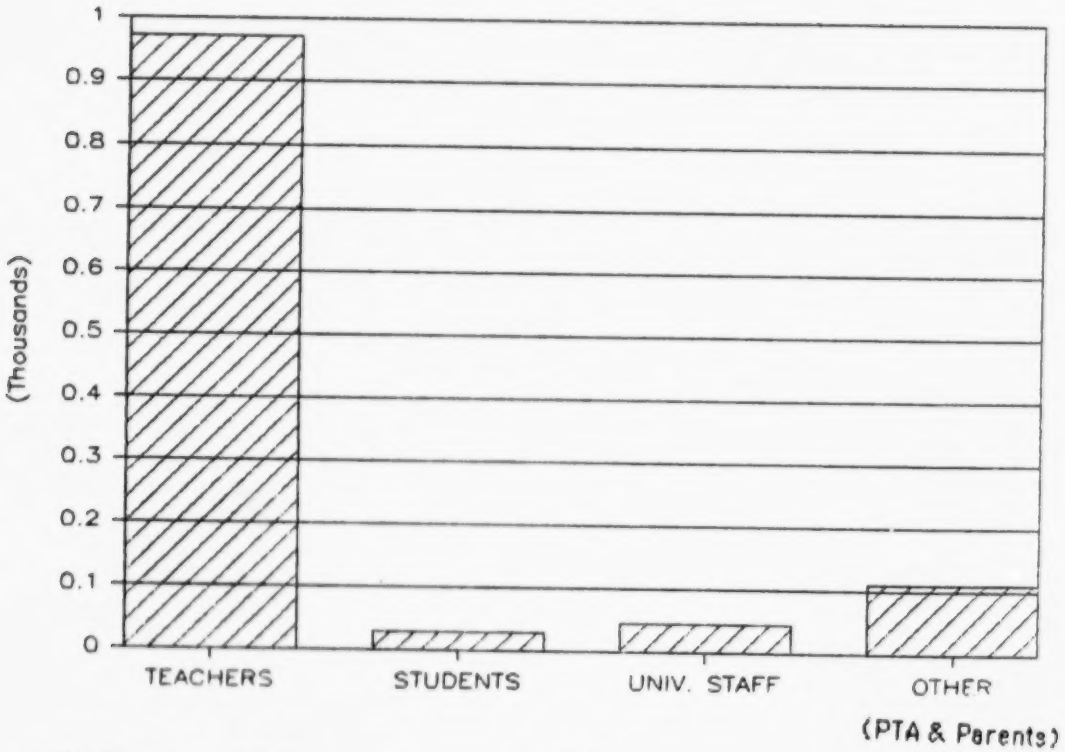
TOTAL - 999

ICCE FIELD SERVICES

July 1985 – June 1986

Exhibit E-2





TOTAL - 1156

SPECIAL PREVIEW SESSIONS

	ICCE	Fort Wayne	NWIESC	U.S.I. - Evansville	Wilson Ed. Center
Language Arts	16	37	*	39	26
Mathematics	19	22	*	20	14
Science	26	38			
Social Studies	18				17

TOTAL ATTENDANCE: **292**

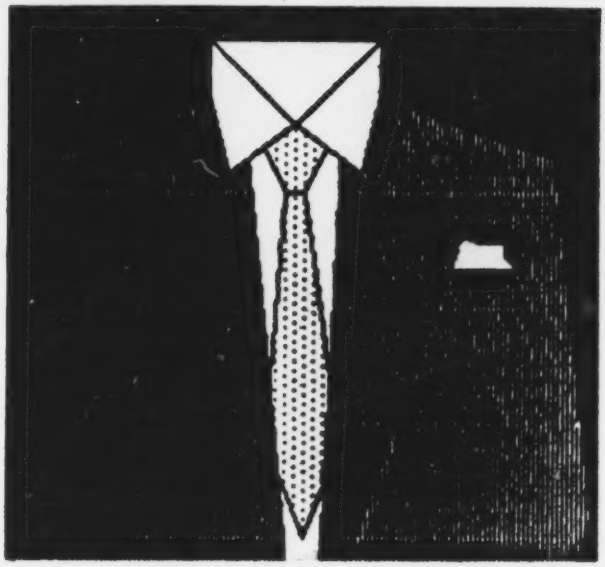
AVERAGE ATTENDANCE: **24**

* Incomplete Data

Volume 3, No. 2
March, 1986
Anne Beversdorf, Editor

FEATURE

COMPUTERS IN BUSINESS EDUCATION



printout

icce

Indiana Clearinghouse for Computer Education

ICCE is seeking volunteers among Indiana educators to develop reviews of instructional software. The software reviews obtained through this project will be added to the base of reviews that constitutes Indiana's participation in the Educational Software Preview Guide.

Any teacher interested in participating in the review process should contact Jennifer Hansen at ICCE (800-222-4223 or 317-264-8001) for more information. Teachers may choose to evaluate materials from individual school collections or evaluate programs on-site at any of the preview centers.

We are also seeking instructional software reviews that have already been produced by Indiana school personnel. Copies of those reviews should also be forwarded to Jennifer. Please feel free to call for more information.

The 1986 Educational Software Preview Guide is now available and has been sent to each public school district in Indiana. The Guide is intended to be used as an aid to educators in locating K-12 instructional software. This year's Guide lists 573 programs selected by a consortium of state agencies, including ICCE. A limited number of additional copies are available to Indiana educators free of charge upon request.

Special preview sessions are being held at the regional preview centers and ICCE this spring. Many titles appropriate for K-12 instruction will be available. Please call to make an appointment. Specifics are as follows:

TABLE OF CONTENTS

Director's Column 2

Computers in Business Education 1

Hardware and Software Discounts 5

Free and Nearly Free .....

News and Opportunities 6

Preview Center Additions 12

April 15-April 17, Mathematics, ICCE (800) 222-2422.
April 21-April 25, Science, Fort Wayne (800) 621-6505.
May 1-May 3, Mathematics, (812) 288- 4825.

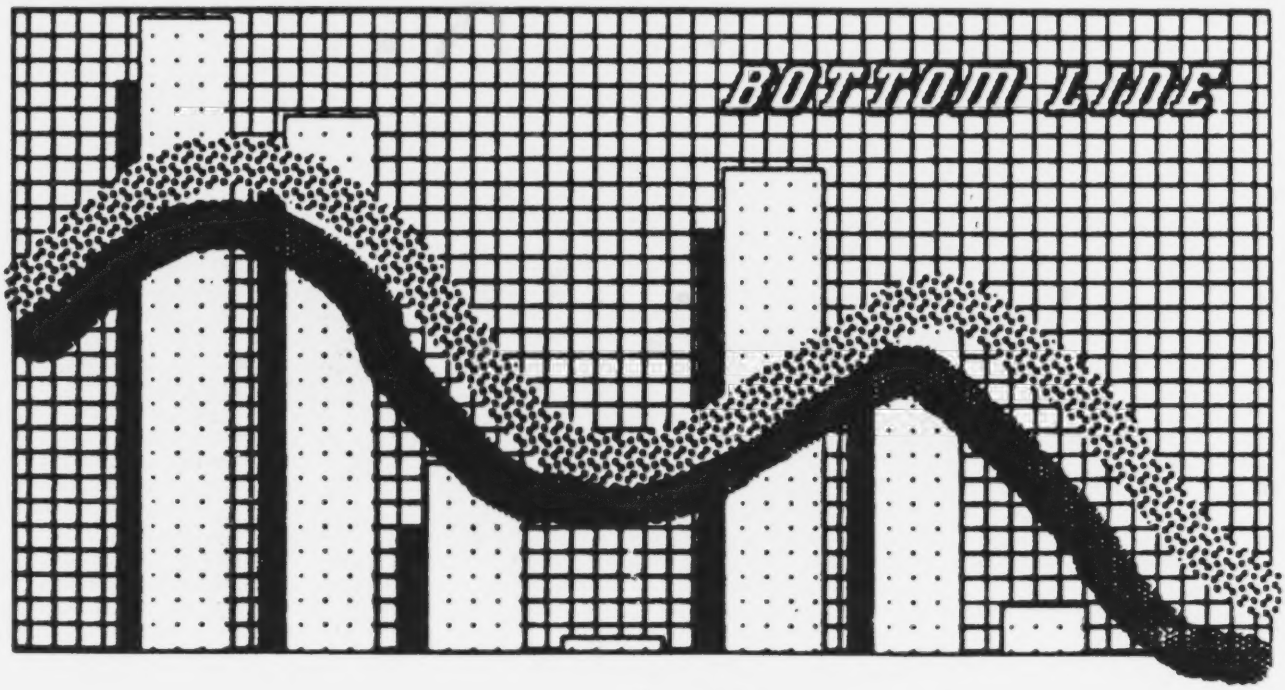
There is still time to apply for rewards through the Making the CUT* (*Computer Using Teachers): Computers in Writing Instruction contest. Deadline for completed applications is May xxx. Write or call ICCE for application forms and more information.

Director's Column —*Mike Neil*

The widespread use of computers in business caused business educators to implement computer classes years before some of the rest of us. Common applications in a secondary business program include: word processing, accounting, keyboarding, programming, database management, spreadsheet applications, graphics and telecommunications. A recent (though somewhat unsuccessful) survey of a group of business teachers in Indiana showed that a majority were actively teaching almost all of these applications and are using a variety of tested software to accomplish their goals.

The knowledge and sophistication in the use of computers in business classes as reported on the survey instrument is demonstrable. Both vocational and comprehensive high school business teachers who completed the survey had much to say about computers in their curriculum. Virtually all are teaching word processing, for example. Many are using simulations in which students "manage" a company for a period of time and try to keep customers, stockholders and employes happy while maintaining realistic production schedules. Automated accounting sets and spreadsheet templates are commonplace.

While the computer activity in business education has grown as computer usage in real business has grown, nothing in our technological society stays constant. Industry has discovered that its computerized business operations are but small "islands of automation" in their entire world. Other islands include design (CAD systems), testing, assembly, distribution and other automated processes and tasks. Large plants have begun to integrate their islands into a coherent computerized system in which each unit can communicate with and use data from every other unit. Computer integrated manufactuing (CIM) is becoming part of small companies as well as large ones. Educators will soon face the question of whether to replicate real CIM systems or continue with their own islands of automation. If they choose to replicate manufacturing practices, we may see business and industrial arts departments merged as never before. Teachers of drafting will have to relate to those in shops and in offices to turn out products in the same way that industry does. The prospects are exciting.



COMPUTERS IN THE BUSINESS CLASSROOM

by Mary Anne Rose

[**Mary Anna Rose**, from **Bosse High School** in **Evansville**, Indiana, is a 30-year veteran teacher of business education. Little did she know that a request to teach a summer "computer awareness" class in 1984 would lead her to a new vision for business education.]

The first software generally available to teachers at Bosse High School was word processing software. Teachers spent many hours learning how to use this new technique for writing and in developing word processing lessons and activities for students. But for business education teachers, word processing was only a beginning. Research into types of software available indicated that there were many opportunities to update the material and instructional procedures in business education classes. As reading, conversations, and research disclosed more possibilities, the number of opportunities simply continued to increase. But if the goal was to extend these opportunities to business students, then students needed to be exposed to the kind of equipment, software, and course content that is represented in the business community. Students who achieved well in a realistically designed classroom would be able to find employment opportunities in Evansville or throughout the country.

At Bosse High School, business education was about to become automated. The first software package to be researched and taught was **Automated Accounting for the Microcomputer**, by Allen and Klooster. This course had the flexibility to be offered as a separate entity in the Business Education curriculum, or in conjunction with already-existing accounting courses. The amazing short-cut method of automatically producing accounting reports turned out to be this teacher's most exciting adventure in 30 years of teaching.

The next package to be explored was the **Business Professional Industrial** (BPI) software system from **BPI Systems** in Austin, Texas. The **BPI** system had the advantages of being used by business in the community, being available for several varieties of microcomputers, and of being a complete, integrated accounting system. It consisted of six interfaced systems: Accounts Payable, General Accounting, Payroll, Inventory Control, and Inventory Cost. The integrated, practical, real-life aspect of this system did wonders for the morale of teachers and students alike, when a local business started asking students for assistance in getting their identical system operational.

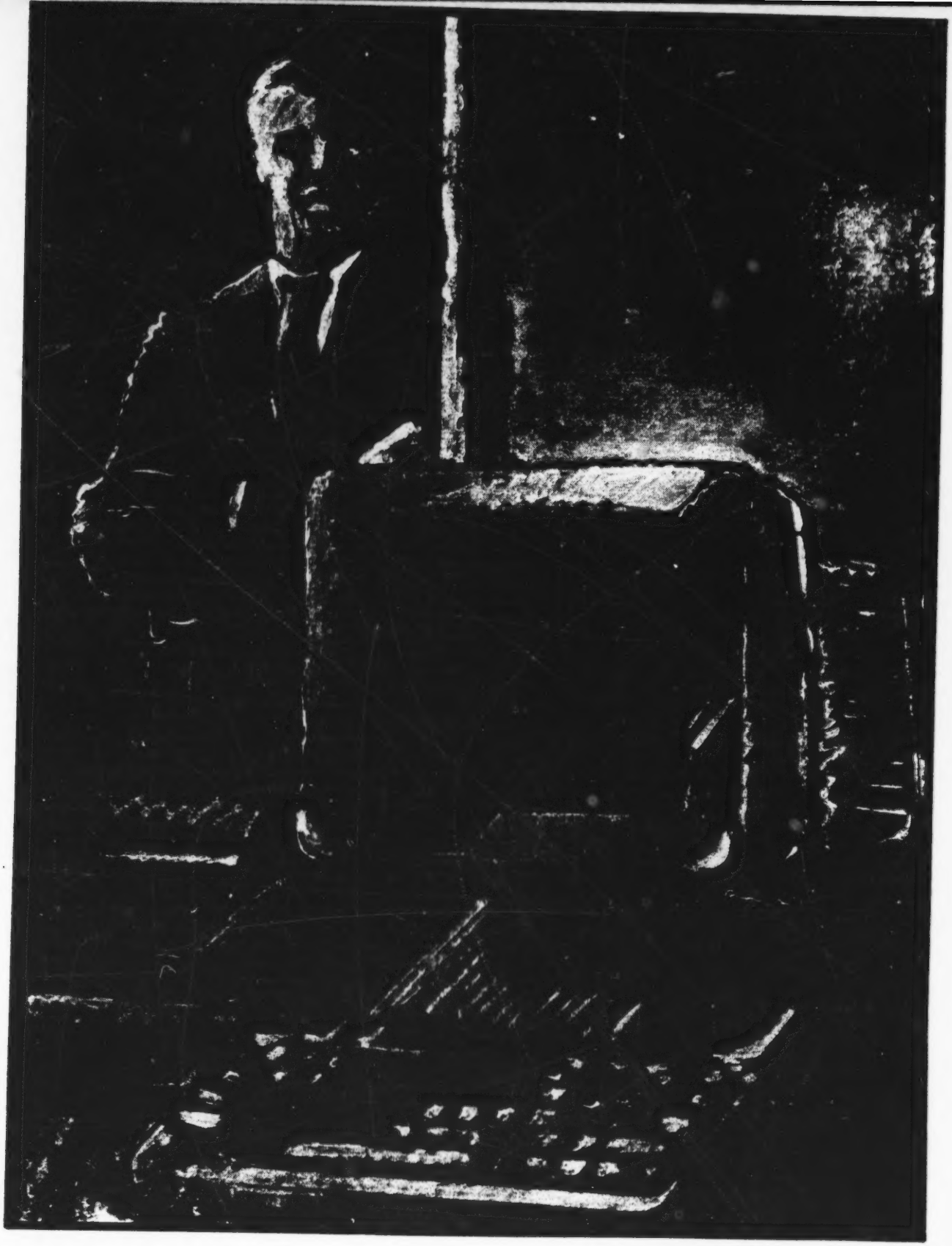
At the beginning of the 1985 school year, a two semester course titled "Automated Accounting" was developed. It was offered to non-business Junior and Senior college-prep students under a magnet concept. Bosse High School was to serve as the magnet school for all high schools in the city, and students throughout Evansville could apply for the course, which met for two-hour blocks. No previous computer or accounting knowledge was required. During the first semester, students were taught manual accounting principles for a sole proprietor, partnership, and corporate business by means of transparencies, blackboard presentations, and completion of problems from the first-year **Century 21 Accounting** textbook (South-Western Publishing Co.). This work was performed both in class and as homework at an accelerated pace.

Then students were introduced to the computer. Calculator texts from our Office Machines Class were used by students to learn the numberr keypad. An old set of typing books was used to learn the alphabetic keyboard. Before graduating to the complex **BPI** system, students first acquired confidence and skill in the use and completion of four automated accounting systems provided with the Commodore 8032 business microcomputers. Written tests were given periodically on basic accounting principles. After successfully completing the textbook assignments for each of the four individual systems (General Ledger, Accounts Receivable, accounts Payable, and Payroll), additional problems from the **Century 21** text were assigned. Suggestions from the pubolishing company for problems adaptable to this software proved quite useful. The first semester final was a performance test, requiring students to set up a brief accounting simulation for a "Video Gallery" business, the test involving all four of the systems they had studied. The first semester's experience served as a perfect background for what was to come in the second semester.
To begin the second semester, each student was assigned a different accounting simulation which required setting up the books for either a sole proprietor, partnership, or corporation. They had to maintain the books for one month and print end-of-month results. A file was set up for each student, containing one folder labeled "Work in Process" and another labeled "Work Completed". Each student worked at his or her own pace, keeping a record of daily activities.

Late in February, students and teacher started learning the **BPI** software. This system was already being installed and used by local businesses. The learning process included researching and practicing data entry for the software system. March was spent becoming familiar with all six components of the system. In early April, the **Home Heating Accounting** simulation by Weaver, Freeman, Hanna and Kahn (McGraw-Hill) was selected as the "company" to be created and tracked with the **BPI** software. This simulation is currently required in the manual accounting classes at level six. By the beginning of May, students were learning how to interface the entire system and to print and analyze a wide variety of business reports. For the final exam, each students was expected to create a brief simulation compiled by the instructor, enter data on daily transactions in all six of the **BPI** software system modules, interface these systems with each other and print a variety of reports for decision-making purposes.

The instructor kept complete documentation of day-by-day work assignments, quantity of work completed, and problems encountered during teaching the course. A copy of the instructor's documentation was distributed to each business teacher in the city for assistance in future efforts to teach this course content. Tests were stored on diskettes, and copies of these disks were available to other teachers who requested them. Copies of the suggested adaptable problems from the **Century 21** textbook were also available.

Since the software used in this course wal being installed and implemented by area businesses, some students were able to function as professional-level consultants in the local community. This experience demonstrated to teachers, students, administration, and parents the value of teaching state-of-the-art business practices. The Evansville-Vanderburgh School Corporation made an investment that is already paying dividends for their students and the community.



HARDWARE/SOFTWARE DISCOUNTS

Creative Computer Resources, is offering 30% discounts on almost all of the 500 popular software products it carries for three brands of computers: **Apple II series, Commodore 64, and IBM**. Ask for Educators Packet. For more information contact: **Creative Computer Resources, P.O. Box 728B, Grand Haven, MI 49417 (616) 842-4137.**

Chambers & Associates is offering its "**Special Offers**" program in software for the IBM personal computer family. The following are some of the products available to educational institutions and their employees, IBM representatives, and in some cases, students:

Product	Ret. price	Sale
Aladin	$795.00	$ 95.00
Classroom Action Manager	99.95	42.50
EasyFiler	195.00	59.00
EasyWriter I 1.4	395.00	59.00
EasyWriter II 4.1	395.00	78.00
Electric Desk	345.00	78.00
Keyworks	89.95	42.50
Open Access	695.00	110.00
Exploring Pascal	39.95	25.00
PC Mouse/PC Paint	295.00	135.00
SuperCalc3 Release 2.1	395.00	78.00
Super SpellGuard	49.95	49.95
SuperWriter	295.00	59.00
The Norton Utilities	99.00	37.50
Volkswriter Scientific	495.00	75.00
WordPerfect 4.1, Includes Sorter	495.00	125.00

To receive an order form write to: **Chambers & Associates, 5499 N. Federal Highway, Suite A, Boca Raton, FL 33431 (304) 997-9444.**

Apple Computer is offering trade-ins on **Apple II, II Plus, III, PCjr, Tandy II, III, IV**, selected **Commodore systems**, selected **IBM typewriters** and **selected computer systems** from other manufacturers. Schools can receive credits up to **$200 per system** towards the purchase of **Apple II** or **Macintosh** personal computers. Participating schools must order a minimum of five new Apple computers. This offer is from **March 15 through December 31, 1986**. Also, beginning April 1, all authorized Apple dealers will have the opportunity to become education dealers. For more information contact: **Apple Computer Inc., 20525 Mariani Ave., Cupertino, CA 95014 (408) 996-1010.**

FREE AND NEARLY FREE

A **free** Skills Matrix helps educators determine which of 13 programs (for ages 3-16) from **The Learning Co.** can strengthen the skills of learning disabled students. The company also developed an in-depth guide based on the matrix. It's called **Guide to the Use of Learning Co. Software with Learning Disabled Children ($4.95)**. For more information contact: **The Learning Co., (800) 852-2255; in California (800) 852-2256.**

The Learning Company and **Addison-Wesley** have published a **skills matrix** showing how their educational courseware packages address strands in Addison-Wesley textbooks. The matrix is **free** to all educators. For more information contact: **The Learning Co., Suite 170, 545 Middlefield Road, Menlo Park, CA 94025, (415) 328-5410, or Mark Battey, Addison-Wesley, 2725 Sandhill Road, Menlo Park, CA 94025 (415) 854-0300.**

35 Ways to Take a "Byte" out of Software Costs is a new booklet available from **COMPress**. The booklet contains ideas collected from **COMPress** customers during a survey regarding the availability of funds for software purchases. Included in the booklet is a **20%** incentive discount coupon toward the purchase of **COMPress** software. For a **free** copy of the booklet, write: **COMPress, P.O. Box 102, Wentworth, NH 03282; or call (800) 221-0419.**

Computer-Assisted Instruction for Music (CAIM) is a catalog which introduces over 70 new music software packages with primary expansion to the elementary level. The programs have compatability with the **Apple, IBM, Commodore** and **Radio Shack** computers. For a **free** copy, write: **Wenger, Dept. 35M, P.O. Box 448, Owatonna, MN 55060; or call (800) 533-0393, in Minnesota call (800) 533-6774.**

"Computer Security Issues & Answers" is a **free** 24-page booklet containing articles on hardware and software security and computer crime prevention. To request the booklet, send a 9" x 12" self-addressed envelope and 73 cents in postage to: **Phyllis St. Martin, Computer Security Institute , 43 Boston Post Rd., Northborough, MA 01532.**

Educators and parents can benefit from a new telephone-based information service called **Technology Tapes (Tech-Tapes)**. A teacher or parent can call a **toll-free** number to receive information on a wide range of topics, including national and special education resources, networks and databases, computer-assisted instruction and software selection. The **toll-free number is (800) 345-TECH**, and can be accessed on a Touch-Tone telephone. For **Virginia residents the telephone number is (703) 750-1276**. A list of access numbers and subject matter is available from CSET. For more information contact: **Center for Special Education Technology, 1920 Association Dr., Reston, VA 22091 (703) 620-3660.**

Celestial Software Inc. is offering **free** copies of its **Images-2D** static and dynamic analysis software program to college engineering departments. The program is priced at $595 and is being offered to about 1,100 colleges, one copy per engineering department. The offer is intended to provide colleges with software for evaluation and implementation into their curriculum. For more information contact: **Celestial Software Inc., 125 University Ave., Berkeley, CA 94710 (415) 420-0300.**

The Texas Computer Education Association (TCEA) has made available to its members and other educational computing enthusiasts an electronic bulletin board service known as the **TCEA Electronic Resource Center**. Any educator who has the use of a computer, a modem and communications software may access the service **at no cost**. Located on The Electric Pages, an information network in Austin, Texas, the service can be reached by dialing (512) 472-6028 and typing **Free** when the system asks for a password. For further information contact: **Keith L. Mitchell, TCEA Electronic Editor, P.O. Box 2573, Austin, TX 78768 (512) 475-2479.**

A **set of posters** is being offered **free** of charge by **T&W Systems**

CAD products, some of which include winning drawings from the CAD student drawing contest sponsored by **T&W Systems**. To request your **free** posters write to: **T&W Systems, Inc., 7372 Prince Drive, Suite 106, Huntington Beach, CA 92647.**

The Logo Class Pen-Pal Network is looking for Logo loving youngsters. Offered through the **University of Virginia's School of Education**, the **free** service matches children on the basis of grade level, computer model, Logo version and geographic preference. Correspondence usually relates to class Logo projects, teaching tips and procedures. To keep the network active, children are encouraged to write at least bi-monthly. For more information and a **free** application, send a stamped, self-addressed envelope to: **Logo Class Pen-Pal Network, Ruffner Hall, Curry School of Education, University of Virginia, Charlottesville, VA 22901.**

Apple Writer disks containing sample letters, notes, tests, mailing list, charts, and a resume and a disk with sample VisiCalc spreadsheets used in high and technical school classes are available for **$6**. For more information contact: **Ronald Gruett, Brillion High School, 315 S. Main St., Brillion, WI 54110.**

The Learning Company is offering **free** to school personnel for workshops, and pre- or in-service training a new demo disk containing samples from seven of their prize winning educational software programs. The demo disk runs on the **Apple II** family of computers. For more information contact: **Demo Disk, The Learning Company, Suite 170, Menlo Park, CA 94025.**

A Mixed-Media Catalog is now available from the **National Clearinghouse of Rehabilitation Materials (NCHRM)**. This catalog includes both print and audiovisual products, including films, videotapes, slides and audiocassettes. Many titles were developed by the Market Linkage Project for Special Education operated by LINC Resources, Inc. Over 200 products are listed in the 90-page catalog, and all titles are sold by NCHRM on a cost-recovery basis. To receive a copy send **$5.00** to: **NCHRM, Special Education, Oklahoma State University, 115 Old USDA Bldg., Stillwater, OK 74078 (405) 624-7650.**

Membership to **Atari** teachers network is available for **$4** per year, which includes the cost of a quarterly newsletter. For more information contact: **Atari Teachers Network, Teaneck High School, 100 Elizabeth Ave., Teaneck, NJ 07666.**

Atari has a program available for averaging grades that takes less than 16 K to run. Include the number of weeks in your grading term and designate disk or tape. Send **$5.00** to cover the cost of materials and return postage to: **Larry Frazier, 5023 Hampshire Drive, Fayetteville, NC 28301.**

Actionauts is a program designed for first through fourth graders, which allows students to program robots on the screen— now available through local **Tech-Ed Centers in California and Commodore Users Groups** nationwide. Copy also available for **$10**. For more information contact: **Rob Fulop, Advanced Program Technology, P.O. Box 50246, Palo Alto, CA 94303.**

The Public Domain Library of the Duncan Institute has introduced a School Starter Library of 174 computer programs suitable for use in schools. Programs in this special collection cover arithmetic, spelling, reading, math, music, biology, chemistry, computer programming, energy, geography, and other topics. The programs were selected from the Duncan Institute's Public Domain Library Catalog of over 2,000 programs. For more information contact: Duncan Institute, New Port Richey, Florida.

NEWS & OPPORTUNITIES

NEWS

Stanley Pogrow, associate professor of educational foundations and administration at the **University of Arizona** at Tucson writes about the trends of administrative uses of computers in the January 29, 1986 issue of **Education Computer News**. He states that:

The first trend is the rapid increase in the number of companies producing administrative software for secondary schools and the rapid growth in the quality of available programs, for both minis and micros. . . .

The second trend in administrative systems is toward purchasing software from a vendor instead of developing it in-house. . . commercial software tends to be more flexible and can adapt to a wider variety of situations as compared to district-developed software that is geared to meeting some of the *immediate* needs but can't be modified to meet changing circumstances. . . .

A third trend is away from consortia and service bureaus toward purchasing and operating one's own computer—especially for student management applications. . .

A fourth trend is away from single central computers toward distributive processing—a process where computer and computer processing are spread throughout the district. . .in districts with four or more secondary schools, central or regional computers are still likely to be the most cost-effective way to go for most applications.

A fifth trend is the computerization of more administrative applications. The most commonly computerized student management applications have been attendance, grade reporting and scheduling. The newest ones are: library management, IEP management for special education, and robot callers. . . .

A sixth trend is the use of new devices to make existing applications more efficient. . . . The next input device to become widely used will be the bar code scanner similar to those used at supermarket checkout counters. Student I.D. numbers, book titles and serial numbers can be represented as a series of unique bars that can be read by a pen-like device. There is also substantial improvement in printers . . .the cost of laser printers is still too high for the typical school but until the cost comes down several secondary schools can share one.

The seventh trend is more direct involvement by principals and staff in working directly with computers—both in terms of helping to select them, formatting reports, document editing and entering requests for information. . . .

The eighth trend is two more powerful systems—both at the local school and district office—and greater communications within and between sites. The IBM PC AT will soon begin to replace the IBM PC XT as the most widely used microcomputer for school administration. At the same time, the new MICRO VAX, a powerful mini in microcomputer form, and others like it, will be ideal as a central system to serve the needs of districts having three to six secondary schools in relative close proximity. If reasonably priced software becomes available for this system, it will be more cost-

effective to use a super-powerful micro version of an established mini with terminals and printers in each school, as opposed to having separate systems in each school. Districts increasingly will use the added capabilities of these more powerful systems to increase the number of stations in each school to communicate with each other and establish electronic mail networks between school and district offices.

DIALOG users will no longer see their passwords displayed as they enter them. When using DIALOG Version 2 from either DIALNET, UNINET, TYMNET, TELENET, or WATS lines, the cursor will move across the screen as the password is entered, however it will be masked. This feature is also in operation for users who dial up to DIALOG Version 2 from countries outside the United States and connect via any of the four telecommunication networks.

Carl deGraaf, associate professor of education, and Anne Bauer, assistant professor of education, at Indiana University Southeast conducted a 12-week research study at Galena Elementary School in New Albany, Indiana. The results indicated that when students work in small groups at the computer, they significantly improve their peer relationships. Their attitudes toward classmates improve, increasing cooperative learning in the classroom. For further information contact: Carl deGraaf or Anne Bauer, Division of Education, Indiana University Southeast, 4201 Grant Line Road, New Albany, IN 47150.

In a recent Texas Tech University study of eighth-grade video game players, aggression levels decreased after playing two video games. This appeared to provide an outlet for everyday frustrations. The 25 boys participating in the study were first tested to measure their aggression levels and then allowed to play video games. The games involved shooting or destroying enemies, mashing human figures, annihilating enemy planes and outer space invaders. After playing two video games of their preference, the boys were given a post-test to compare aggression levels. The level decreased so much that it was decided it couldn't be attributed to chance. Researchers in the Texas Tech College of Home Economics plan to continue the study with a larger population to reinforce the findings. For more information contact: Department of Human Development and Family Studies, Texas Tech University, Lubbock, TX 79409.

Some tips offered by Educational Activities, Inc. on keeping software trouble free are:

1. Clean the disk drive heads at least once a month with a head cleaning kit.
2. Periodically have the disk drive alignment and speed checked; simply moving the disk drive may put the heads out of alignment.
3. Store software properly in its envelope. Always keep the diskettes away from extreme heat or cold and magnetic fields. Avoid placing diskettes on the disk drive or monitor.
4. Educate students about the proper handling of diskettes. Be sure they do not touch the exposed parts of the diskette.
5. Don't write on a disk label while it is on the disk; don't pull the label off a disk.

The following question and answer on equipment wear and tear was taken from the May, 1985 issue of PC Magazine:

Question: I am interested in the effects of turning a typical PC configuration—PC, printer, and modem—on and off vs. leaving them running unattended. Assuming the screen is blanked to prevent being burned, is it better to turn the system off or leave it running idle for 1 hour? 8 hours? 24 hours?
Answer: On one hand turn-on/turn-off switching transients (brief power surges) are a prime cause of premature equipment failure, and properly designed transistor equipment, given recommended ventilation, should theoretically be left on continuously. On the other hand, most printer motors are probably not designed for continuous duty. The break-even point is probably somewhere between 8 and 24 hours. If you're leaving for less than 8 hours, it would probably be best overall to leave the system on. More than 24-hour absence would imply turning the system off, though some would argue even here for leaving the system running all the time. The break-even point would be less than 8 hours if you have a fixed disk, for its motor turns continually when the power is on.

Reported from CompuServe and The Catalyst: the problem of repeat key action has been solved by Lyle W. Crouse of the Apple P.I.E. user's group by doing the following:

1. Turn computer off.
2. Remove the 40 pin keyboard encoder chip. Be careful not to bend any of the pins.
3. Carefully bend pin 5 out at a 45 degree angle so the pin will go on the outside of the socket when the chip is put back in.
4. Place chip back in socket, being careful to align all pins (except pin #5).
5. Turn on the computer; now the repeat function will not work when key is held down.
6. To re-activate the repeat function, repeat these steps, straightening and inserting pin 5.

The March, 1985 issue of PC World warns that IBM's AT appears more sensitive than the PC. A telecommunications/hardware administration manager at MicroPro International, reports that one of the company's ATs blew out a hard disk when an employee plugged in the keyboard while the machine was on. PC World warns to be safe, turn the machine off before connecting or disconnecting the keyboard or any other peripheral.

Julio Angel Juncal, Washington, DC submits his tip to MacTips in A+ Magazine's March 1985 issue: "To avoid typing recurring expressions and long or complicated terms, I substitute & or * or another appropriate character. Later, I replace the characters with my desired words or phrases using MacWrite's Change option in the Search menu."

In the January, 1985 issue of Family Computing, some tips on how to use the computer in a successful fund raising:

1. Write your own program or obtain permission to use a friend's programs or ones from magazines or books.
2. Make it non-age-specific. With the exception of very young toddlers, anyone from 2-82 should be able to answer the computer's questions. Make the questions very general.
3. Assess customers' abilities. Can they type? Can they understand a question? Will they feel awkward and shy about your taking their finger and guiding it? Do they seem uneasy? The successful Computer-Ade stand needs an operator who is both a showperson and a computerperson.
4. Cover disk drives, tape all wires out of sight and reach.
5. Make things colorful. Paint large bright banners, decorate tables.
6. Printouts as souveniers. Parents, as well as children like to see their name in print and have something to take home.
7. Mount the printouts on either cards or construction paper.
8. Go for music and graphics. A simple picture or bar of music is an amazing phenomenon.
9. Use good judgment. Overlook what's being typed into the computer to avoid any embarrassment or hard feelings.
10. Have a reset button. This helps to remedy the problem of holding down keys too long and getting the repeated letters.

IBM
TANDY
Commadore
ATARI
Apple------>

Opportunities

If you are a **CAD instructor** whose students have been trained on **CADAPPLE** or **VersaCAD**, or you are a **CAD student** about to graduate, **T&W Systems, Inc.** would like to stay in touch with you. As part of a **TWICE program (T&W Initiative for CAD Excellence)**, they are maintaining a job data bank, linking CAD-trained graduates with job openings. They will post your job qualifications and location and encourage employers to report job availabilities. For more information contact: **T&W Systems, Inc., 7372 Prince Drive, Suite 106, Huntington Beach, CA 92647 (714) 847-9960.**

Products

The **Trackstar Apple II+ emulation board** enables the **Tandy 1000** personal computer to run almost all **Apple II+** software. It retails for **$375** but educational discounts are available to schools ordering through **Tandy's Education Division.** Also, at a discount of **40%** below the price of the **IBM PC AT**, is the **Model 3000** computer which is compatible with the **IBM PC AT**. For more information contact: **Tandy Education Division, 1800 One Tandy Center, Fort Worth, TX 76102 (817) 390-2728**

CompuServe is now offering **Microsearch**, a comprehensive database with information on computers and related products. The database contains more than 20,000 abstracts, with about 200 microcomputer-related periodicals and product literature from 4,500 manufacturers and software publishers. Also included are product evaluations and a directory of manufacturers. For more information contact: **CompuServe, 5000 Arlington Centre Blvd., Columbus, OH 43220 (614) 457-8600.**

Tryware Volume I from **Briter Inc.** is a 10-disk package of 16 user-supported programs for the **IBM PC, PC-XT** and compatibles. The eight major applications include PC-Write word processor, PC-File database manager, PC-Calc spreadsheet, QModem for communications, PC-Disk for file cataloging, CMenu for menu management of DOS commands and program selection, Privacy for file security, and Newkey, the keyboard enhancer and macro generator. In addition, there are three utilities and five games. The price is **$79.95**. For more information contact: **Briter Inc., 1100 E. Hector St., Conshohocken, PA 19428 (215) 828-3230.**

Silence is Golden is a new product which allows the control of sound for programs. It is a headphone with a plug for the **Apple II, II+, and IIe** computer. It allows for volume control, access to sound by one or more students, or for use as originally designed. It sells for **$19.95**. For more information contact: **Educational Software Review, 1400 Shattuch Ave., Suite 774, Berkeley, CA 94709 (415) 528-2788.**

RITA is a robotic telephone assistant, available for the **Apple II (64K)**. **RITA** can automatically phone students' homes to leave recorded messages. Using a disk containing student's phone numbers, a "call-up list," a tape recorded message, and a timer, **RITA** can call parents to inform them of their child's absence, overdue books, or important meetings, for example. **RITA** also keeps track of the calls made and will automatically redial numbers at which it receives a busy signal or no answer. The entire package includes a modem (which can also be used for other telecommunications functions), tape recorder, timer, and software. The price is **$950**. For more information contact: **School Office Software Systems, 3408 Dover Road, Durham, NC 27707 (919) 493-3366.**

Special Senses: Volume 1, The Eye is an interactive tutorial for biology students in grade 10 and up, which teaches the anatomy of the eye, optics, and the mechanics of human vision. There are four modules (Special Terms, Optics, Operation of the Eye, and Rods and Cones), each with a test, and two with pop quizzes. Features include a crossword puzzle, graphic displays, and animation. For the Apple II+, IIe, IIc, or compatibles with disk drive and monitor, **$50.00**. For more information contact: **COMPress, P.O. Box 102, Wentworth, NH 03282 (603) 764-5831/5225.**

Introduction to Science Package, for grades 4-8, presents five elementary science topics in a tutorial, drill-and practice, or game format. The package contains Your Universe, a three-part series which includes the The Solar System, The Earth, and The Weather, as well as Prehistoric Life and The World of Insects. Teacher's Lesson Planner and back-up disks included with each program. For the **Apple II** family. Five-program package, **$149**. separately, **Your Universe, $99, Prehistoric Life or The World of Insects, $39 each**. For more information contact: **Focus Media, Inc., 839 Stewart Ave., P.O. Box 865, Garden City, NY 11530 (516) 794-8900.**

Concepts Computerized Atlas puts a full-color three-dimensional globe on the screen, and provides information on more than 2,500 cities. Enter a state, province, or country and it comes to the center of the screen. Enter a city and receive latitude and longitude, population, and facts. Find the distance between two places in land miles, nautical miles, or kilometers. For **IBM PC, PCjr** or **compatible** with IBM color graphics board or Hercules monochromatic board, or **Apple IIe, IIc, or Macintosh**. Try the program for **$5 (Macintosh $6.95)** and either keep disk for reformatting or send **$69.95** for unlocking code to keep Atlas. **Teacher's Guide, $3.95**. For more information contact: **Software Concepts, P.O. Box 3323, Wallingford, CT 06494.**

The **Keyboard Chart** is 45" wide and 35" high. Coated with an erasable writing surface (free pen included) the Keyboard Chart allows for quick and easy identification and explaination of the functions of computer keyboards to students. Available for most popular educational computers including **Apple IIe, Apple II+, IBM PC, Commodore 64, TRS 80 Mod I, III, 4, and Color Computer 2**. The cost is **$21.95**. For further information contact: **The Learning Circuit, 4550 Hollywood Blvd., Suite 170, Los Angeles, CA 90027 (213) 663-9399.**

More than 120 of the best courseware products available in the field of special education are reviewed in **Microcomputers in the Classroom: Courseware Reviews**, a publication from Professional **Press Books**. The reviews are field-based and were written by professionals using information provided by special ed teachers who have used the courseware with their students. The courseware reviewed is for students in grades K through 12 and includes drill and practice programs, problem solving and simulations, teacher utilities, languages and word processing. The 156-page softcover book also contains indexes of hardware, target

audiences, academic development, teachers and publishers. For more information contact: **Professional Press Books, 633 3rd Avenue, New York, NY 10017.**

An **Evaluation Handbook for a Computer Education Program** is a clear and effective guide written by **Karen J. Billings**, for educators at all levels wanting to evaluate a computer education program. There are three major sections to provide procedures and understanding to gather information and develop meaningful conclusions and recommendations. Fieldtested in 24 school sites the handbook sells for **$14** from **ICCE, The University of Oregon.** Another educational monograph, ideal for leading workshops from **ICCE, is High Tech/High Touch: A Computer Education Leadership Development Workshop, by Dave Moursund.** Specifically designed for leaders: teachers, computer coordinators, workshop leaders and teacher educators, the 15 sessions cover communication ideas, leadership traits, active listening, problem solving, stress and burnout for **$16.** For more information contact: **ICCE, The University of Oregon, 1787 Agate Street, Eugene, OR 97403.**

Contests

Baudville, creators of **Take 1** animation package, has launched a national movie contest, **"You Oughtta Be in Pictures." Baudville** is looking for the best movies created with **Take 1** and an **Apple** computer with **$1,000 Shopping Sprees** awarded to the winners. Entries will be judged in January 1986 at the Consumer Electronics Show in Las Vegas, but schools may continue to submit entries until May 15 for a special "schools only" judging in June 1986. (Schools are eligible for either judging.) For more information contact: **Baudville, 1001 Medical Park Dr., SE, Grand Rapids, MI 49506 (616) 957-3036.**

Scholastic Inc. is now inviting entries for its **Second Annual Story Tree** writing **contest**. Co-sponsored by **Apple Computer Inc.**, the contest recognizes the imaginative talents of 4th through 9th grade students who use **Story Tree**, Scholastic's creative writing program, to write their own adventures, mysteries, or other stories. Prizes will be awarded in two divisions: elementary (grades 4-6) and junior high (grades 7-9). The author of the grand prize-winning story in each of these divisions will receive an **Apple** computer. Each of the two winning authors' teachers will also receive an **Apple** for classroom use. Additionally, ten stories will be selected for honorable mention in each division of which each winner will get **$100** worth of **Scholastic Software** programs. The deadline for entries is **April 30, 1986**. For more information contact: **Scholastic Software, Story Tree Contest, Dept. WW, 730 Broadway, New York, NY 10003.**

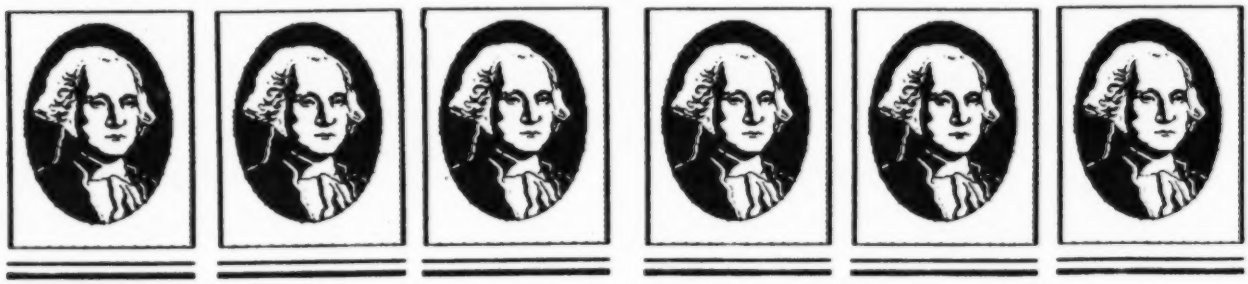
Grants

The **Education Department** has expanded its definition of "library materials" to include computer software, according to final regulations governing ED's **$118 million library grants** program. The provision takes into account the growing number of state and public libraries that are purchasing and circulating computer software, according to the rules. The final rules were published in the Aug. 16 Federal Register. For more information contact: **Robert Klassen, Chief, State and Public Library Services Branch, Education Dept., 400 Maryland Ave., SW, Brown Building, Room 613, Washington, DC 20202 (202) 254-9664.**

The Alcoa Foundation offers grants to help colleges and universities in computer technology use. The company makes grants to support scholarships, fellowships, construction, equipment purchase and institutional development. Proposals may be submitted at any time. **Funding in 1984 was $4.8 million.** For more information contact: **Earl Gadbery, Alcoa Foundation, 1501 Alcoa Building, Pittsburgh, PA 15219 (412) 553-4545.**

The Hitachi Foundation will award grants for areas in technological literacy in secondary schools, innovative language instruction and the effects of technology on society. The foundation will fund educational programs at all levels, from childhood to adult education, on local, national and international levels. Proposals may be submitted at any time. **Funding for 1986 is $15 million and they will add $5 million in 1987.** For more information contact: **Hitachi Foundation, 1725 K St. NW, Washington, DC 20006 (202) 457-0588.**

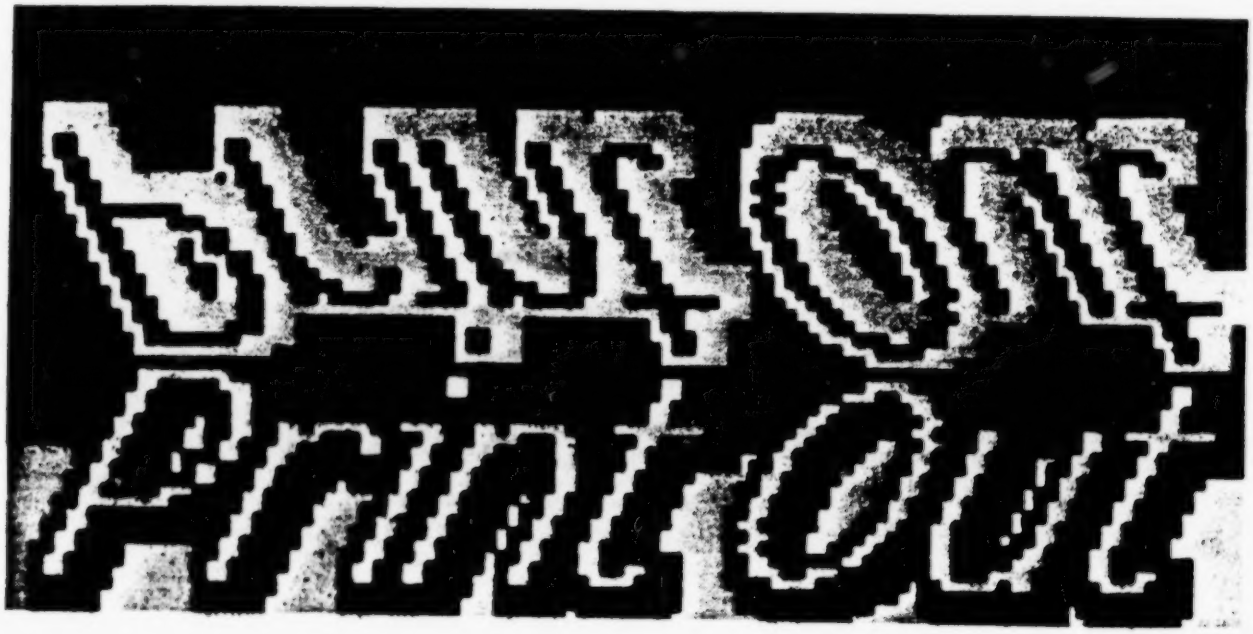
The Education Department has established 1986 funding priorities for projects to improve computer education. The department will fund projects to improve the quality of teaching through recruiting, training and retraining, and to improve the quality of instruction by upgrading materials and curriculum. **Grants will range from $50,000 to $150,000 each.** For more information contact: **Patricia Alexander, Secretary's Discretionary Programs, Education Department, 1200 19th St. NW, Washington, DC 20208 (202) 254-8227.**



PREVIEW CENTER CONTRIBUTORS

The following publishers and vendors have furnished materials to the ICCE Preview Center since the last issue of Printout. A complete list of hardware, peripherals, and software titles may be obtained by writing to Jennifer Hansen, ICCE Preview Center Manager.

Brainpower
Center for Intellectual Achievement
Chancery Software
Classics on Computer
Grassy Creek School
Gregg/McGraw Hill
Interface Software
Know Logo
Learning Research Associates
Living Video Text
Media Materials
Sunburst
Ztek Company



Indiana Clearinghouse for Computer Education

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1986 SUMMER INSTITUTES
SPONSORED BY
THE INDIANA CONSORTIUM FOR COMPUTER AND HIGH TECHNOLOGY EDUCATION
(Call Contact Persons Listed for Full Details)

BALL STATE UNIVERSITY

Institute Name:	Advanced Logo: Artificial Intelligence
Dates:	July 14 - July 18 (Number of Openings: 15)
Contact Persons:	John Merbler (317) 285-5700 Dale Lawver: (317) 285-5700
Selection Criteria:	Must have knowledge of programming language and LOGO experience.

INDIANA STATE UNIVERSITY

Institute Name:	Administrative Utilization of Software for Data Management and Planning
Dates:	June 22 - June 28 (Number of Openings: 60)
Contact Person:	Glen J. Brown (812) 237-2905
Selection Criteria:	Request questionnaire. Preference given to advanced users.

Institute Name:	Advanced Media Center Computer Management Institute
Dates:	August 4 - August 15 (Number of Openings: 26)
Contact Persons:	James Thompson (812) 237-2937 Lawrence Reck (812) 237-2937
Selection Criteria:	Practicing media specialists. Request application.

Institute Name:	Advanced Skills in Microcomputer Utilization for School Counselors
Dates:	July 13 - July 25 (Number of Openings: 50)
Contact Person:	Lawrence Beymer (812) 237-283
Selection Criteria:	Preference given to school counselors with advanced computer experience.

INDIANA UNIVERSITY, BLOOMINGTON
(Vocational Education Services)

Institute Name:	Occudata Institute: Using the Occupational Data Analysis System Designing Vocational Programs
Dates:	July 8 - July 11 (Number of Openings: 20) July 15 - July 18 (Number of Openings: 20)
Contact Person:	James Pershing (812) 335-6711
Selection Criteria:	Preference given to applicants with curriculum and program development responsibilities. No previous experience with computers required.

INDIANA UNIVERSITY, BLOOMINGTON

Institute Name:	Applications of Computing to School Art Instruction Level II
Dates:	July 30 - August 15 (Number of Openings: 24)
Contact Person:	Guy Hubbard (812) 335-8549
Selection Criteria:	Art teachers with previous experience in computing.

Institute Name: Interactive Videodisc Training Institute
Dates: July 9 - (Number of Openings: 40)
Contact Person: Marv Ebbert (317) 264-7442
Selection Criteria: Request brochure. Participants should have completed Level I training and have knowledge of BASIC. Institute will be for secondary teachers.

Institute Name: Introduction to Pascal for School Teachers
Dates: July 7 - July 11 (Number of Openings: 24)
Contact Person: Lee Ehman (812) 335-4053
Selection Criteria: Preference given to secondary math, science and and computer science teachers.

Institute Name: Microcomputer Graphics for Art Teachers Level I
Dates: July 11 - July 29 (Number of Openings: 24)
Contact Person: Guy Hubbard (812) 335-8549
Selection Criteria: Art teachers with support of local principal.

Institute Name: SuperPilot for Teachers
Dates: June 2 - June 18 (Number of Openings: 24)
Contact Person: Lewis Polsgrove (812) 335-9779
Selection Criteria: Request questionnaire. Participants must have experience with computers.

INDIANA UNIVERSITY-PURDUE UNIVERSITY AT INDIANAPOLIS

Institute Name: Interactive Videodiscs Training Institute
Dates: August
Contact Person: Marv Ebbert (317) 264-7442
Selection Criteria: Request Brochure. Participants should have completed Level I training and have knowledge of BASIC. Institute will be for elementary teachers.

INDIANA UNIVERSITY FOR INDIANA UNIVERSITY NORTHWEST

Institute Name: Advanced Training in the Interfacing of Microcomputers in the Secondary Science Classroom
Dates: June 1 - September 30 (Number of Openings: 15)
Contact Person: Janet Woerner (219) 980-6522
Selection Criteria: Request brochure. Preference given to secondary science teachers.

Institute Name: Techniques and Applications of Microcomputer Based Laboratory
Dates: June 1 - September 30 (Number of Openings: 15)
Contact Persons: Janet Woerner (219) 980-6522
Terrence Lukas (219) 980-6522
Selection Criteria: Request brochure. Preference given to secondary science teachers throughout Indiana.

MANCHESTER COLLEGE

Institute Name:	(Untitled) Institute uses microcomputer technology as as working tool for teaching Science and Math in the secondary schools
Dates:	June 16 - June 27 (Number of Openings: 20)
Contact Persons:	L. Dwight Farringer (219) 982-2141 Albert Williams (219) 982-2141
Selection Criteria:	Must have one year of experience teaching secondary science or math and using computers.

PURDUE UNIVERSITY/CALUMET CAMPUS

Institute Name:	An Advanced Computer Institute for School Media Specialists
Dates:	May 1 - June 30 (Number of Openings: 20)
Contact Person:	Dorothy Johnson (219) 844-0520
Selection Criteria:	Request Brochure listing participant requirements.
Institute Name:	Computer Tools for Writing Instruction
Dates:	May 1 - June 30 (Number of Openings: 20)
Contact Person:	Dorothy Johnson (219) 844-0520
Selection Criteria:	Must have experience with word processing.
Institute Name:	Logo for Upper Elementary and Middle School Teachers
Dates:	May 1 - June 30 (Number of Openings: 20)
Contact Persons:	Roberta Dees (219) 844-0520 Dorothy Johnson (219) 844-0520
Selection Criteria:	Must be teachers in grades 4-8 with two years of teaching experience.

PURDUE UNIVERSITY/FORT WAYNE

Institute Name:	Developing CAD Skills for the Industrial Arts Class
Dates:	May 1 - September 30, 1986 (Number of Openings: 16)
Contact Person:	Matthew Kubik (219) 482-5716
Selection Criteria:	Must be practicing industrial arts teachers.
Institute Name:	Using the Computer to Teach Problem-Solving in the English Class
Dates:	May 1 - September 30, 1986
Contact Person:	Helen Lee (219) 482-5532
Selection Criteria:	Must be practicing secondary english teachers.
Institute Name:	Using the Computer to Teach Problem-Solving in the Social Studies Classroom
Dates:	May 1 - September 30 (20)
Contact Person:	Helen Lee (219) 482-5532
Selection Criteria:	Must be practicing secondary social studies teachers.

PURDUE UNIVERSITY/WEST LAFAYETTE

Institute Name:	Interactive Video
Dates:	April 1 - October 31 (Number of Openings: 15)
Contact Person:	James Lehman (317) 494-5670
Selection Criteria:	Must have access to computer equipment. Access to interactive video equipment is desirable.

TAYLOR UNIVERSITY

Institute Name:	Integrating Software Into Elementary Curriculum and Instruction
Dates:	July 28 - August 32 August 4 - August 8
Contact Person:	Daniel Jeran (317) 998-5200
Selection Criteria:	Participants selected from Blackford and Grant counties plus adjacent districts by local superintendents.

UNIVERSITY OF SOUTHERN INDIANA

Institute Name:	Electronic Spreadsheets for Secondary School Business Teachers
Dates:	June 23 - June 27 (Number of Openings: 20)
Contact Person:	Charles Price (812) 464-1954
Selection Criteria:	Must be high school business education teachers.

Institute Name:	Computer Enriched Social Studies
Dates:	Section I: June 16 - June 20 (Number of Openings: 20) To be held in Evansville, Indiana Section II: July 28 - Aug. 1 (Number of Openings: 20) To be held in Jeffersonville, Indiana
Contact Person:	Charles Price (812) 464-1954
Selection Criteria:	Must be social studies teachers with working knowledge of PFS:file.

Institute Name:	Microcomputers in the Science Laboratory
Dates:	June 23 - June 27 (Number of Openings: 16)
Contact Person:	Charles Price (821) 464-1954
Selection Criteria:	Must be secondary science teachers with access to Apple or Commodore computers.

Formula Allocation Program
Approximate Budget

	Requested To Date	Not Requested To Date
Adams Central Community Schools	1,731.00	
Alexandria Community School Corp.	2,663.00	
Anderson Community School Corp.	14,090.00	
Argos Community Schools		1,700.00
Attica Consolidated School Corp.		1,700.00
Avon Community School Corp.	3,233.00	
Barr-Reeve Community Schools	1,700.00	
Bartholomew Consolidated School Corp.	11,063.00	
Batesville Community School Corp.	2,032.00	4.00
Baugo Community Schools	1,100.00	611.00
Beech Grove City Schools		2,280.00
Benton Community School Corp.		2,621.00
Blackford County Schools	3,349.00	
Bloomfield School District		1,700.00
Blue River Valley Schools	1,700.00	
Boone Township	1,700.00	
Bremen Public Schools		1,765.00
Brownsburg Community School Corp.	3,894.00	
Brownstown Central Community Sch. Corp.	2,178.00	
C. A. Beard Memorial School Corp.		1,900.00
Cannelton City Schools	1,700.00	
Carmel Clay Schools	7,952.00	
Carr Township Schools		1,700.00
Carroll Consolidated School Corp.		1,747.00
Cass Township Schools	1,660.00	40.00
Caston School Corporation	1,700.00	
Center Grove Community School Corp.	5,258.00	33.00
Centerville-Abington Comm. Schs.	2,172.00	
Central Noble Community School Corp.	1,700.00	
Central School Dist. of Greene Co.	1,700.00	
Clark-Pleasant Community School Corp.	2,781.00	
Clarksville Community School Corporation	1,922.00	
Clay Community Schools	4,689.00	
Clinton Central School Corporation	1,700.00	
Clinton Prairie School Corporation	1,700.00	
Cloverdale Community Schools	1,180.00	520.00
Columbia City Joint High School		0.00
Columbia City Schools	2,145.00	
Columbia Township Schools	1,700.00	
Concord Community Schools	3,866.00	
County School Corp. of Brown Co.		2,683.00
Covington Community School Corp.	1,700.00	
Crawford County Community School Co.	2,386.00	
Crawfordsville Community School	2,640.00	33.00
Crothersville Community School	1,700.00	
Crown Point Community School Corp.	5,316.00	
Culver Community Schools Corp.		1,700.00

Danville Community School Corp.		2,206.00
Decatur County Community Schools		2,901.00
Dekalb Co. Central United School District		3,894.00
Dekalb County Eastern Comm. Sch. District		2,470.00
Delaware Community School Corp.		3,595.00
Delphi Community School Corp.	2,090.00	
Dewey Township Schools	1,700.00	
Duneland School Corp.		5,081.00
Eagle-Union Community School Corp.	2,405.00	
East Allen County Schools	9,874.00	
East Gibson School Corporation	1,826.00	
East Noble School Corp.	4,082.00	
East Washington School Corp.	1,742.00	
Eastbrook Community School Corp.	2,330.00	
Eastern Hancock Co. Comm. Sch. Corp.	1,700.00	
Eastern Pulaski Community School Corp.		1,834.00
Eastern School District of Greene County		1,700.00
Eastern-Howard Community School Corp.		1,700.00
Edinburg Community School Corp.	1,700.00	
Elkhart Community Schools	11,286.00	
Elwood Community School Corp.	2,797.00	
Eminence Cons. School Corp.		1,700.00
Etna-Troy Township Schools		1,700.00
Evansville-Vanderburgh School Corp.	21,873.00	
Fairfield Community Schools	1,773.00	
Fayette County School Corporation	5,999.00	
Flat Rock Hawcreek School Corporation	1,700.00	
Fort Wayne Community Schools	30,869.00	52.00
Frankfort Community	3,437.00	
Franklin Community School Corp.		3,529.00
Franklin County Community School Corp.		3,454.00
Franklin Township Community School Corp.	4,693.00	
Franklin Township Schools	1,700.00	
Fremont Community Schools	1,175.00	525.00
Frontier School Corporation	1,700.00	
Garrett-Keyser-Butler Comm. Sch.		1,919.00
Gary Community School Corp.	28,673.00	
Goshen Community Schools	4,200.00	11.00
Greater Clark County Schools	11,667.00	
Greater Jasper Consolidated Schools	2,843.00	
Greencastle Community School Corp.	2,068.00	
Greenfield Central Community School	4,050.00	22.00
Greensburg Community Schools	2,621.00	
Greenwood Community School Corp.	847.00	2,630.00
Griffith Public Schools		2,894.00
Hamilton Community Schools	1,700.00	
Hamilton Heights School Corp.	2,278.00	
Hamilton Southeastern Schools	2,477.00	
Hammond City Schools	13,446.00	
Hanover Community School Corp.		1,700.00
Harrison-Washington Comm. Sch. Corp.		1,700.00
Hobart, School City of		3,977.00
Hobart Township Community School Corp.	2,255.00	
Huntington County Community Sch. Corp.	6,516.00	
Indianapolis Public Schools	43,560.00	

Jac-Cen-Del Community School Corp.		1,700.00
Jay School Corporation	4,907.00	
Jefferson Township Schools		1,700.00
Jennings County School Corp.	4,723.00	
John Glenn School Corporation		2,014.00
Kankakee Valley School Corp.	3,244.00	
Knox Community School Corp.	1,950.00	637.00
Kokomo-Center Township School Corp.	9,168.00	
Lafayette School Corp.	7,764.00	
Lake Central School Corp.	5,007.00	1,225.00
Lake Ridge Schools	3,477.00	
Lake Station Community Schools		2,274.00
Lakeland School Corporation		2,573.00
Laporte Comm. School Corporation	6,599.00	
Lawrenceburg Community School Corp.	2,135.00	
Lebanon Community School Corp.		3,490.00
Liberty-Perry Community School Corp.	1,795.00	
Linton-Stockton School Corporation	1,806.00	
Logansport Community School Corp.		5,039.00
Loogootee Community School Corp.	1,700.00	
MSD Bluffton-Harrison	2,090.00	
MSD Decatur Township	6,018.00	1.00
MSD Lawrence Township	9,671.00	75.00
MSD Martinsville Schools	5,759.00	
MSD Mount Vernon	3,118.00	
MSD North Posey County School	2,076.00	
MSD Perry Township	13,004.00	
MSD Pike Township		4,132.00
MSD Shakamak Schools		1,700.00
MSD Southwest Allen County		3,372.00
MSD Steuben County	2,781.00	
MSD Wabash County Schools	3,385.00	
MSD Warren Township	11,075.00	345.00
MSD Washington Township	10,210.00	
MSD Wayne Township	14,120.00	
MSD Warren County	1,919.00	
Maconaquah School Corp.	3,152.00	
Madison Consolidated Schools	3,809.00	
Madison-Grant United School Corp.	2,424.00	
Manchester Community Schools	2,200.00	3.00
Marion Community Schools		7,783.00
Marion-Adams Schools	1,700.00	
Merrillville Community School	5,715.00	8.00
Michigan City Area Schools	9,104.00	
Middlebury Community Schools		2,831.00
Milan Community Schools	1,700.00	
Mill Creek Community School Corp.		2,065.00
Mississinewa Community Schools Corp.	2,963.00	
Mitchell Community Schools		2,560.00
Monroe Central School Corp.		1,700.00
Monroe Community School Corporation	1,700.00	
Monroe County School Corp.	10,412.00	
Monroe-Gregg School District		1,877.00
Mooresville Consolidated School Corp.	3,878.00	
Morgan Township Schools	1,700.00	

Mt. Pleasant Township Comm. Sch. Corp.	2,510.00	
Mt. Vernon Community School Corp.	2,662.00	
Muncie Community Schools	9,870.00	959.00
Munster, School Town of		3,356.00
Nettle Creek School Corp.	1,820.00	
New Albany-Floyd County Cons. Sch.	11,122.00	
New Castle Community School Corp.		5,358.00
New Durham Township Schools	1,700.00	
New Harmony Town & Township Cons. Sch.	815.00	885.00
New Prairie United School Corp.		2,553.00
Nineveh-Hensley-Jackson United Schools		2,033.00
Noblesville Schools	4,310.00	29.00
North Adams Community School	2,669.00	
North Central Community School Corp.	2,624.00	
North Daviess County Community Sch.		1,732.00
North Gibson School Corporation	2,726.00	
North Judson-San Pierre School Corp.	1,960.00	
North Knox School Corp.	2,199.00	
North Lawrence Community School	5,973.00	
North Miami Community Schools	1,780.00	
North Montgomery Community School Corp.	798.00	1,620.00
North Newton School Corp.	2,386.00	
North Putnam Community Schools		1,881.00
North Spencer County School Corp.	2,459.00	
North Vermillion Community School Corp.	1,700.00	
North White School Corp.		1,700.00
Northeast Dubois County School Corp.	1,700.00	
Northeast School Corp.		2,374.00
Northeastern Wayne Schools	1,780.00	
Northern Community School of Tipton Co.		1,700.00
Northern Wells Community Schools	2,755.00	
Northwest Allen County Schools	2,799.00	
Northwest Hendricks Schools		1,813.00
Northwestern Consolidated School Corp.	2,132.00	
Northwestern Sch. Corp. of Henry Co.		2,053.00
Northwestern School Corporation	2,276.00	
Northwestern Wayne Schools	1,780.00	
Oak Hill United School Corp.	2,174.00	
Oregon-Davis School Corporation	1,700.00	
Orleans Community Schools	1,700.00	
Paoli Community School Corp.	2,093.00	
Penn-Harris-Madison School Corp.	6,819.00	
Perry Central Community School Corp.	1,673.00	27.00
Peru Community Schools		3,197.00
Pike County School Corp.	2,670.00	
Pioneer Regional School Corporation	1,659.00	41.00
Plainfield Community School Corp.	3,429.00	
Pleasant Township Schools	1,700.00	
Plymouth Community School Corp.		3,061.00
Portage Township Schools	9,003.00	30.00
Porter Township School Corp.	1,159.00	743.00
Prairie Heights Comm. School Corp.		2,068.00
Prairie Township Schools		0.00
Randolph Central School Corp.	2,540.00	
Randolph Eastern School Corp.	1,700.00	

Randolph Southeastern School Corp.		1,700.00
Rensselaer Central School Corp.	2,171.00	2.00
Richland-Bean Blossom Comm. Sch. Corp.		2,936.00
Richmond Community School Corp.	7,860.00	89.00
Rising Sun-Ohio Co. Comm.		1,700.00
Rochester Community School Corporation		2,281.00
Rockville Community Schools	1,700.00	
Rossville Consolidated School District	1,700.00	
Rushville Consolidated Schools	3,612.00	
Salem Community School	1,700.00	
Salem Community Schools	2,548.00	
School City of East Chicago	7,561.00	
School City of Mishawaka	5,691.00	
School Town of Highland	4,013.00	
Scott County School District 1	2,113.00	
Scott County School District 2	3,048.00	
Seymour Community Schools	4,247.00	
Shelby Eastern Schools		2,142.00
Shelbyville Central Schools	3,469.00	274.00
Shoals Community School Corp.	1,700.00	
Smith-Green Community Schools		1,792.00
South Adams Schools		1,894.00
South Bend Community School Corp.	21,047.00	
South Central Community School Corp.	1,700.00	
South Dearborn Community School Corp.	3,248.00	
South Gibson School Corporation		2,069.00
South Harrison Community School	3,119.00	
South Henry School Corp.		1,700.00
South Knox School Corp.	1,690.00	10.00
South Madison Community School Corp.	3,680.00	
South Montgomery Community School Corp.	800.00	1,585.00
South Newton School Corp.		1,700.00
South Putnam Community Schools	1,719.00	
South Ripley Community School Corp.	1,819.00	
South Spencer County School Corp.	2,052.00	11.00
South Vermillion Community School Corp.	2,166.00	511.00
Southeast Dubois County School Corp.	1,700.00	
Southeast Fountain School Corp.		1,862.00
Southeastern School Corporation	2,047.00	535.00
Southern Hancock Co. Comm. School Corp.	2,438.00	
Southern Wells Community Schools	1,700.00	
Southwest Dubois County School Corp.	2,046.00	
Southwest Park Community School Crop.		1,700.00
Southwest School Corporation	2,389.00	
Southwestern Dist. of Shelby Co.	1,621.00	79.00
Southwestern-Jefferson County Cons.	2,048.00	
Speedway City Schools		1,777.00
Spencer-Owen Community Schools	2,980.00	
Springs Valley Comm. School Crop.	1,700.00	
Sunman-Dearborn Community School Corp.	1,891.00	1,460.00
Switzerland County School Corp.	1,842.00	
Taylor Community School Corp.	2,015.00	413.00
Tell City-Troy Township School Corp.	2,529.00	13.00
Thorncreek Township Schools	1,700.00	
Tippecanoe School Corp.	7,589.00	

Tippecanoe Valley School Corp.	2,435.00	
Tipton Community School Corp.	2,523.00	
Tri-County School Corp.		1,700.00
Tri-Creek School Corp.	3,462.00	
Triton School Corporation	1,700.00	
Turkey Run Community School Corp.	1,700.00	
Twin Lakes School Corp.	3,111.00	
Union County School Corp.	2,095.00	
Union School Corporation	1,700.00	
Union Township School Corp.	1,756.00	
Union Township Schools		0.00
Union Township Schools	1,700.00	
Union-North United School Corp.	1,894.00	1.00
Valparaiso Community Schools	5,028.00	
Vigo County School Corp.	17,512.00	
Vincennes Community School Corp.	3,718.00	
Wa-Nee Community Schools	3,050.00	
Wabash City Schools	2,406.00	
Warrick County School Corp.		9,180.00
Warsaw Community Schools		5,709.00
Washington Community Schools	2,806.00	
Washington Township Schools	1,700.00	
Washington Township Schools	1,700.00	
Washington-Stafford Consolidated	1,700.00	
Wawasee Community School Corp.	3,431.00	
West Central Community School Corp.		2,982.00
West Central School Crop.	1,200.00	500.00
West Clark Community Schools	3,667.00	
West Lafayette Community School Corp.	2,248.00	
West Noble School Corp.	2,399.00	
West Washington School Corp.	1,700.00	
Western Boone County Comm. Sch. Dist.		2,219.00
Western School Corp.	2,796.00	
Western Wayne	1,828.00	
Westfield-Washington Schools		1,780.00
Westview School Corporation	2,220.00	
Whiting School City		1,700.00
Whitko Community School Corp.	2,501.00	
Worthington-Jefferson Cons. School		1,700.00

FORMULA ALLOCATION PROGRAMS

Selected Program Activities

Salem Community Schools

Administrators and guidance personnel were trained to use IBM packages for student scheduling, grades, attendance, ranks, continuous grade point average, and immunization records. This training would result in establishing a continuous data base on all students in grades K-12.

School City of Mishawaka

Teachers receive training in the use of word processing as related to the curriculum outline for grades 4-6. Word processing will be used mainly in the language arts classes particularly for creative writing. Editing capabilities of word processing will enable students to write and correct their work.

Union School Corporation

Training focused on learning library applications using a computer, i.e., storing, processing, retrieving and transmitting information, and inventory, circulation, and card catalog. Participants will be able to search for material for students and hook up with other library networks.

Additional training was provided in computer aided drafting. The industrial arts teacher will use the training to teach drafting students to use new technology in drafting techniques.

Metropolitan School District of Mount Vernon

Administrators will be trained in administrative applications of computers. Participants will receive training and word processing, attendance procedures, budget, and student registration reports.

Cannelton City Schools

Teachers were trained using the computer to prepare students for SAT testing. Teachers will instruct students to use software which will prepare them for SAT testing.

Indianapolis Public Schools

Business education teachers will be trained on integrating a data base, spreadsheet, word processing concepts and basic programming in business computer applications, accounting and typewriting. Students will benefit by the use of actual business applications.

Foreign language teachers will be trained to use the computer to reinforce and help achieve curricular objectives. Elementary Spanish teachers will develop skills in teaching creative writing in Spanish. French teachers will be trained to use Bataille de Mots, Le Demenegement and Paris en metro. Grammar, culture, and composition will be taught using some new software in the junior high program.

Gary Community School Corporation

Social studies teachers will be trained to use a teacher utility program, "Test Data Bank". As a result of this workshop participants will develop a city-wide test question data bank in the area of high school social studies.

Additional training will be provided to elementary teachers using "Newsroom" software. Participants will be able to use the "Newsroom" program to publish school newspapers and newsletters, thereby improving students' writing skills.

Western School Corporation

Industrial arts and agriculture teachers will receive training in computer assisted drafting and agriculture recordkeeping. Students in industrial arts and agriculture will have the opportunity to learn how to use the computer as an instructional tool.

Brownsburg Community School Corporation

Language arts teachers will receive training in the application of word processing for students for composition and report writing. Teachers will begin training their students to use word processing to write, edit and print compositions and reports assigned in various curricular areas. Teachers will also incorporate the use of editing skills to help students increase punctuation, spelling and grammar skills.

Fort Wayne Community Schools

Secondary science teachers will be trained to use computers with science lab experiments. Teachers will use the computer to assist in demonstrations for students or for lab experiments by students.

Fayette County School Corporation

Training will be provided in the utilization of the Astronet telecommunications service with the Young Astronaut's Club. Young Astronaut Clubs in the elementary schools will be able to receive the information from Astronet.

SCHOOL TECHNOLOGY ADVANCEMENT ACCOUNT
Loans for Period Ending June 30, 1986

Corporation Name	Amount of Loan
Fort Wayne Community Schools	$643,440.00
East Allen County Schools	231,782.00
Southeastern School	48,077.00
Mt. Pleasant Township Community Schools	52,746.00
Salem Community Schools	22,073.00
Elkhart Community Schools	278,666.00
Goshen Community Schools	86,839.00
East Gibson Corporation	30,971.00
North Gibson Schools	47,540.00
Westfield-Washington Schools	41,311.00
Marion-Adams Schools	25,605.00
Southern Hancock County Community Schools	25,000.00
New Castle Community	80,000.00
Eastern-Howard Community Corporation	28,173.00
Western Corporation	56,108.00
Rensselaer Central Corporation	35,260.00
Prairie Heights Community Corporation	38,111.00
Lakeland Corporation	43,700.00
Hobart Township Community Corporation	37,500.00
Lake Station Community	42,787.00
Gary Community Corporation	690,141.00
Town of Munster	30,000.00
New Prairie United Corporation	49,049.00
South Central Community Corporation	20,000.00
Alexandria Community Corporation	51,419.00
Elwood Community Corporation	46,500.00
MSD Lawrence Township	200,748.00
MSD Warren Township	219,012.00
Bremen Public	30,738.00
MSD Martinsville	127,120.00
Tell City-Troy Township Corporation	35,000.00
Portage Township	180,000.00
Batesville Community Corporation	38,177.00
Penn-Harris-Madison Corporation	149,957.00
School City of Mishawaka	124,889.00
Scott County District 2	61,531.00
Shelbyville Central	35,000.00
Fremont Community	27,506.00
Tipton Community Corporation	47,454.00
Vigo County Corporation	399,504.00
MSD Wabash County	67,406.00
Twin Lakes Corporation	62,175.00
School Town of Highland	71,000.00
Union Township School Corporation	28,000.00
Northwest Allen County Schools	50,000.00
LaPorte Community School Corporation	127,500.00
Pioneer Regional	22,000.00
Wa-Nee Community	53,000.00
John Glenn	25,000.00
Beech Grove City	34,485.00
Total:	$5,000,000.00

IR0134 18

Indiana Consortium for Computer and High Technology Education

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Superintendent of Public Instruction
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Exhibit Development Director
Children's Museum
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317/924-5431

INTRODUCTION

Legislation enacted in 1985 by the Indiana General Assembly directed the Indiana Consortium for Computer and High Technology Education to do the following:

(1) Coordinate programs to demonstrate to school corporation personnel the use of computers as instructional tools;

(2) Establish regional clearinghouses for computer instruction information;

(3) Coordinate training of teachers in computer instruction skills:

(4) Advise the board on the administration of the school technology advancement account as created under section 4 of this chapter.

During the second part of the biennium, the Consortium carried out activities which were part of the 1985-87 plan. This report will include background information from the first part of the biennium when necessary to more fully explain current activities.

The report is divided into the following sections:

I. Demonstration Projects

- A. Local Initiative Grants
- B. Self Contained Classroom Grants
- C. Other Consortium Supported Demonstration Efforts

II. Level II Teacher Training

III. Indiana Clearinghouse for Computer Education and Preview Centers

IV. Specialized Computer Related Training

- A. Summer Teacher Training Institutes
- B. Formula Allocations to School Corporations

V. School Technology Advancement Account

I. DEMONSTRATION PROJECTS

In the first year of the biennium, the Consortium approved 17 demonstration projects in order to "coordinate programs to demonstrate to school corporation personnel the use of computers as instructional tools." The Consortium reserved one million dollars for the operation of programs in this area. These programs were approved for operation during the 1986-1987 school year. All Consortium Demonstration projects were open to visitation from educators around the state. Two meetings of the project personnel of the local school initiative and self contained classroom projects have resulted in the development of a replication study which addresses in general how to organize a local technology effort.

Local Initiative Programs

Eight Local Initiative programs received funding in the amount of $317,460 for operation during the 1986-87 school year. These programs have operated successfully, demonstrating innovative and creative uses of computers and other technology in the classroom. Descriptions of these programs are found in Exhibit A.

Self-Contained Classroom Programs

The nine Self-Contained Classroom programs which received funding in the amount of $178,424 have also proved to be successful when implemented during the 1986-87 school year. Funding of these projects allowed the purchase of up to 13 computers per self-contained classroom to provide a student/computer ratio of no greater than 2:1. Instructors were paid for curriculum modification activities which were necessary for students to benefit fully from the placement of computers in the classroom (Exhibit B).

Other Consortium Supported Demonstration Efforts

Various other demonstration efforts supported by the Consortium for operation during the 1986-87.

Multi-Term Classroom Project

Small hand held terminals placed at students' desks allowed classroom teachers to determine within seconds, students understanding of critical concepts being taught. Tests, quizzes, and question and answer sessions were recorded using the Multi-term unit. The University of Evansville will provide evaluation information gathered from this project.

Installation of High Performance System

The WICAT HYDRA installation at Ft. Wayne Community School Corporation has continued to provide a wide variety of courseware for students, as well as an extensive classroom management system.

Interactive Video

Production of a video disc with practical physics applications was made possible in funding of a cooperative effort project. Students in physics classes at Vigo and Clay County Schools participated in the production of the disc with direction from the Rose Hulman Institute. Two-hundred-and-fifty copies of the disc were made available free of charge to requesting teachers from the Clearinghouse for Computer Education.

Software Communication Service

In response to an invitation for Indiana to participate in a national communications network, the Consortium contributed payment of a membership fee to the Maryland State Department of Education which allows Indiana to participate in the development of a framework for software distribution.

Extending Study Opportunities with Portable Computers

This project at Evansville-Vanderburgh School Corporation seeks to link school learning opportunities with home learning opportunities by using portable computers that can be used at both school and home. By using portable computers, teachers and parents can work together with the same equipment and materials to provide effective learning opportunities for children. Students, teaching staff and parents will receive instruction on using the computers and working cooperatively.

Basic Skills Curriculum

The School City of East Chicago in cooperation with Computer Systems Research has received funding for implementation of a program focusing on mastery of the basic skills. During the summer of 1987, students will receive up to two hours of computer-assisted instruction each day for an eight week summer session. Individual learning needs will be met though use of a comprehensive computer-assisted and computer-managed instructional remediation program.

Computers and Composition Seminar

The Indiana Teachers of Writing with the support of the Consortium, sponsored a 1987 Spring Seminar, "Computers and Composition." The conference allowed eighty (80) writing teachers from kindergarten through college to examine writing programs in computer labs at Notre Dame.

II. LEVEL II TRAINING

The Consortium, following its plan for the 1985-1987 biennium, directed training efforts at the regional training sites toward more advanced training sessions with the following objectives:

- Provide more specialized training at various grade levels in a number of curriculum areas;
- Place the emphasis of training on the integration of computers into the curriculum;
- Allow teachers to use software in their specific area and/or grade level;
- Focus training on key building level teachers who will return to their districts and share their knowledge with peers;
- Develop a network of district resource persons who will be responsible for providing computer training at the local level; and
- Initiate training efforts compatible with training provided through summer institutes and formula allocation programs.

Standardized training modules, recommended by the Consortium during the first year of the biennium, were developed by regional training center personnel to be used in all areas of the state according to individual school corporation needs. Centers used the modules to train 5,380 participants in various program areas and grade levels (Exhibit C).

III. INDIANA CLEARINGHOUSE FOR COMPUTER EDUCATION AND PREVIEW CENTERS

During the last year of the biennium, the Clearinghouse for Computer Education, located on the campus of Indiana University-Purdue University at Indianapolis, continued to offer services to the education community of Indiana. Services was provided in several areas including:

- Contracted services with print and on-line information sources for the latest information on educational computing.

- Operation of a software preview center housing approximately 1,700 titles in its collection. A total of 637 visitors, representing 105 school corporations, visited the preview center during the past school year.

- On-site field services which allowed a consultant to travel to schools with portions of the collection for review by school personnel. Another 635 teachers representing 26 school corporations received on-site services through the Clearinghouse.

- The Clearinghouse also participated in special preview sessions by sending software to the four preview centers located around the state. These special preview sessions were attended by 320 people.

- During 1986-1987, the Clearinghouse sponsored or cosponsored with the Department of Education, conferences in order to provide quality direction in the following areas:

  Managing an Educational Software Collection; attended by 120 participants

  Higher Order Thinking Skills Awareness Conference; attended by 124 participants

  Computing Tools for Teachers; attended by 150 participants

  Using Technology to Improve Instruction; attended by 171 participants

- The Clearinghouse newsletter entitled, "PRINTOUT" was distributed to a mailing list of approximately 2,000 people. The PRINTOUT disseminates information about new materials, Consortium activities of interest to teachers and highlights of successful implementations of high technology in Indiana classrooms.

IV. SPECIALIZED COMPUTER RELATED TRAINING

SUMMER TEACHER TRAINING INSTITUTES

The Consortium reserved $300,000 for the operation of summer institutes which offered training in special program areas to teachers. Twenty-four institutes operated during the summer of 1986 at 11 teacher training institutions allowing 648 teachers to receive training (Exhibit D).

FORMULA DISTRIBUTIONS TO SCHOOL CORPORATIONS

The Formula Allocation program, designed so that school corporations could use funds according to their needs, continued during the 1986-87 school year. A total of 266 school corporations applied (88% of all school corporations). The Consortium had reserved $1.1 million dollars for this program. The program was adjusted for the 1985-87 biennium to provide more base funding in order to benefit school corporations with smaller populations (Exhibit E).

V. SCHOOL TECHNOLOGY ADVANCEMENT ACCOUNT

The school Technology Advancement Account had $5 million dollars available for low interest loans to school corporations for the purchase of computer equipment and software. A list of the 44 school corporations which were approved for these funds is attached (Exhibit F).

EXHIBITS

A. LOCAL INITIATIVE GRANT PROJECT ABSTRACTS

B. SELF-CONTAINED CLASSROOM PROJECT ABSTRACTS

C. REGIONAL TRAINING WORKSHOP SUMMARY

D. SUMMER TEACHER TRAINING INSTITUTES

E. FORMULA ALLOCATIONS TO SCHOOL CORPORATIONS

F. SCHOOL TECHNOLOGY ADVANCEMENT ACCOUNT LOANS

LOCAL INITIATIVE GRANT
PROJECT ABSTRACTS

Corporation Name: Clinton Prairie School Corporation

Project Name: The WRITE Way

Funding: $42,000

Description: The project will utilize a networked lab of 12 MACINTOSH Computers with "Macwrite" and ALPS "Writing Lab" software to improve writing skills of tenth, eleventh and twelfth grade students. The project will integrate writing into the curriculum in an attempt to improve overall writing, vocabulary, spelling and other related skills.

Corporation Name: Crawford County Community School Corporation

Project Name: Career Education for Ninth and Sixth Graders

Funding: $46,639

Description: The project will provide structured opportunities for career exploration for 172 sixth grade students and 980 junior and senior high students. Word processing, data base management and other software will be used by students as they explore career opportunities.

Corporation Name: Fort Wayne Community Schools

Project Name: Interactive Video in the Elementary Science Curriculum

Funding: $51,186

Description: Project teachers will create interactive video lessons for existing video disc materials. Approximately 4000 fourth and fifth grade students will participate.

Corporation Name: Linton Stockton Community School Corporation

Project Name: : Individualized Instruction via W'CAT Hydra System

Funding: $60,000

Description: The project will install a professional system to serve 330 fourth, fifth and sixth grade students. Teachers will be trained to use reports available to individualize instruction for students. The computer-managed instruction aspects of the WICAT System, as well as its ability to individualize instruction, will be examined closely.

Corporation Name: Madison Area Educational Special Services Unit

Project Name: Microcomputer for the Low Incidence Handicapped Student

Funding: $12,750

Description: The project will provide hardware and software that will provide severly handicapped students with a multi-sensory instructional approach and a highly individualized direct learning program. Computers will be equipped with adaptive firmware cards, speech synthesizers, expanded key boards and key guards to allow the use of mouthsticks, headpointers and hand prods.

Corporation Name: Mississinewa Community Schools

Project Name: The Eduvision Project

Funding: $37,385

Description: The project will affect 900 sixth through eighth grade students. Hardware and software will be used with music, geography, industrial arts, health and other areas of study in an integrated curricular design.

Corporation Name: Monroe County School Corporation

Project Name: Microcomputer Based Laboratories (MBL)

Funding: $51,000

Description: The project will provide for an eight (8) computer laboratory to serve 800 science students into two (2) middle schools. Equipment at each site will be sued to collect and analyze data in science projects. Teachers will be trained in each school. If warranted, other teachers will be trained in MBL procedures and techniques.

Corporation Name: Southeast Dubois School Corporation

Project Name: Computers in Industrial Manufacturing

Funding: $16,500

Description: The project will introduce computers in high school metals, graphics, woods and drafting classes and junior high industrial arts classes. Hardware to be purchased in the project includes a Rhino Robot and CNC Lathe.

GRANT AWARD TOTAL: $317,460.00

SELF-CONTAINED CLASSROOM
PROJECT ABSTRACTS

Corporation Name: Tri-Creek School Corporation

Project Name: Betterment of Academic Skills thru Instruction by Computers

Funding: $19,373

Description: The project is based on a fourth grade classroom with special emphasis on individualized instruction according to ability and needs for each student. A control group will be established using another fourth grade classroom. One result of the project will be the determination of the effect that computers can have on a typical classroom when used for instructional support at a 2:1 student/computer ratio.

Corporation Name: Triton School Corporation

Project Name: Consortium Self-Contained Classroom Project

Funding: $20,000

Description: This project has a curriculum that will provide optimum use of computers in a third grade classroom. Students will experience a smooth transition from second grade with a minimum of computer knowledge thru this program and enter fourth grade with two computer labs scheduled weekly. The curriculum will be expanded horizontally to reach higher level thinking skills by using software that requires the student to make responses based on deductions or inferences resulting from applying the knowledge rather than simply recalling it.

Selected software will be chosen to foster three social structures: group settings to stimulate group interaction; two-on-one situations to encourage teamwork; and one-on-one experiences to develop individual skills.

Corporation Name: East Allen County Schools

Project Name: Kids, Computers, and Curriculum

Funding: $20,000

Description: This project will demonstrate the ways in which computers may be integrated into the fourth grade classroom and used as instructional tools. This project will also evaluate the effectiveness of computer integration into the curriculum. Areas of integration include: morning work, mathematics, language arts, Indiana history, science, health and other areas.

Corporation Name: Carmel Clay Schools

Project Name: Self-Contained Classroom Demonstration Project

Funding: $20,000

Description: This project will use the computer to teach some fifth grade subject ares including: language arts, science, social studies and mathematics. The computer will be used as a learning object not an object of learning. Subjects will not be learned in a vacuum, but skills will be applied in a variety of situations.

Corporation Name: MSD of Warren Township

Project Name: Self-Contained Classroom Demonstration Project

Funding: $20,000

Description: This project will use the computer as a key instructional tool while the teacher will be the most important facilitator of learning. The computer will be used as a device for review, drill, testing, remediation, enrichment and management in the third grade subject areas of reading, spelling, English, math, science, social studies and health.

Corporation Name: Fayette County School Corporation

Project Name: Classroom Computer Project

Funding: $19,950

Description: This project will use the computer as an instructional tool in all curricular areas of the fourth grade program. It will use such software as: word processing, data processing and communications software. With programs the students will develop improved decision-making and problem-solving skills in all areas of instruction.

Corporation Name: MSD of Mount Vernon

Project Name: Consortium Self-Contained Classroom Project

Funding: $19,150

Description: This fourth grade classroom computer project will be used to replace worksheets with more interesting and interactive software programs. This program will also place some emphasis on enrichment in which some art, music and foreign language software will be made available for students who show an interest in these areas. Computer programming skills will be encouraged, but emphasis will not be placed upon it.

Corporation Name: Rockville Community School Corporation

Project Name: Self-Contained Classroom Demonstration Project

Funding: $19,951

Description: This fourth grade computer project would provide an effective system for computer aided instruction (CAI). An effort would be made to use CAI whenever it would enhance regular instruction or benefit a student's learning style. CAI would be used in the subject areas of reading, math, English, spelling, social studies, health and science.

Corporation Name: Clarksville Community School Corporation

Project Name: Using Computers - A Classroom Bonus

Funding: $20,000

Description: This fifth grade project will alternate between conventional teacher instruction and computer-assisted instruction. Word Processing will have special emphasis placed upon it and will be used in the subject areas of language arts, reading, English, spelling and writing. Students who need either remedial work or a gifted curriculum will have supplemental individual software.

TOTAL PROJECT GRANT $178,424.00

REGION I
Northwest Indiana Educational Service Center

Training sessions were provided by the Region I Training Center in the following areas:

- Appleworks
- Creative Art on Computers
- Data Base for Science
- Data Base for Social Studies
- Desk Top Publishing
- Economics Workshop
- Key Instructional Contact People Training
- MECC Writer
- Micros in Special Education
- Spreadsheet for Math
- Teacher Utilities
- Wordprocessing for Language Arts

A total of 446 people received training this past year.

REGION 11
Elkhart Community Schools

Training sessions were provided by the Region 11 Training Center in the following areas:

Teacher Utilities
Word Processing
Spreadsheets
Data Base
Administrative use of computers
Problem Solving with Logo
Telecommunications

A total of 386 people received training this past year.

REGION III
Fort Wayne Community Schools

Training sessions were provided by the Region III Training Center in the following areas:

Introduction to Computers for PRIME TIME Aides
Administrative Workshop
Word Processing (Elementary, Middle School and Secondary level)
Data Base and Introduction to Data Base
Integrating Software into the Elementary Classroom
Coordinators' Meetings
Logo Writer
Teacher Utilities
Introduction to the Computer for Classroom Teachers
Problem-Solving Workshop
Using Computers into Science Classroom
MEEC Math Programs

A total of 1,111 people received training in these sessions. Another 205 people were contacted through visits to 20 school corporations

REGION IV
Clinton Prairie School Corporation

Training sessions were provided by the Region IV Training Center in the following areas:

Appleworks Spreadsheet
Appleworks Data Base
Appleworks Word Processing
Problem Solving with LOGO
Introduction to Macintosh and Desk Top Publishing
Using Computers in the Primary Classroom
Data Base Applications in the Social Studies Curriculum
Computer Coordinators' Meetings
Keyboarding for Kids
Word Processing in Language Arts
Applications for School Media Professionals
Word Processing in the Elementary Curriculum
Appleworks, Data Base and Word Processing in the Language Arts Curriculum
Telecommunications
Spreadsheets in Mathematics Curriculum
Software Integration in the Upper Elementary Curriculum
Data Base in the Science Curriculum
Computers and Thinking Skills
Spreadsheets: A Basic Introduction
Data Base Applications in the Classrooms

A total of 913 received training this past year.

REGION V
Indianapolis Public Schools

Training sessions were provided by the Region V Training Center in the following areas:

Using Computers and Software in the Elementary Classroom
LOGO and Problem-Solving Skills
Keyboarding
Word Processing and Classroom Applications
LOGOWRITER
Appleworks (Word Processing and Data Base)
Data Base and Applications for Classroom Use
Spreadsheet in the Mathematics Curriculum
Teachers' Utilities
Computers: An Administrative Perspective
Region V Facilitators Training
Region V Computer Coordinators and the Indiana Computers for Instruction Progress
Computers and Higher Order of Thinking Skills
Computer-Aided Design/Computer-Assisted Management
Economics Program for High School Social Studies Teachers

A total of 651 people received training this past year.

REGION VI
(Training Coordinated by Region IV)

Training sessions were provided by the Region IV Training Center in the following areas:

Software Integration in the Upper Elementary Curriculum
Problem Solving with Logo
Using Computers in the Primary Classroom
Appleworks, Data Base, Word Processing
Appleworks Spreadsheet
Data Base and Software Integration in the Science Curriculum
Applications for Student Information Management
Spreadsheets: Introduction to Multi-Plan
Applications for School Media Professionals
Integration of Microcomputers in Education for Administrators
Computers and Thinking Skills Development
Word Processing in the Elementary Curriculum
Word Processing in the Language Arts Curriculum
Keyboarding for Kids; Teaching Techniques for Elementary Programs
Data Base Applications in the Social Studies Curriculum

A total of 310 people received training this past year.

REGION VII
Indiana University

Training sessions were provided by the Region VII Training Center in the following areas:

Word Processing
Creativity with the Computer
Utilities for Teachers and Administrators
Telecommunications
Computing Basics
Electronic Libraries
Special Education
Introduction to MS-DOS
Data Bases
Electronic Spreadsheets
Computers and the Job Market

A total of 313 people received training.

REGION VIII
University of Southern Indiana

Training sessions were provided by the Region VIII Training Center in the following areas:

Data Bases in the School Curriculum
Computer Coordinators' Meetings
Data Bases in the School Curriculum
Newsletters and Newspapers
Computers in the School Curriculum
Work Processing in the School Curriculum
Spreadsheets in the School Curriculum
Utility Programs for Teachers
Computers in the Primary Classroom
Teaching Problem-Solving via the Computer
Logo and Advanced Logo
Newspapers and Newsletters
Computers in Elementary Science
Teaching Keyboarding Skills in the School Curriculum
Computers in the School Curriculum - Reading
Introduction to Microcomputer-Based Laboratories

A total of 281 people received training.

REGION IX
Wilson Education Center

Training sessions were provided by the Region IX Training Center in the following areas:

Meeting for Instructional Contacts
Keyboarding
Thinking Skills
Software Utilization for Primary Teachers
Word Processing for Elementary Teachers
Software Utilization for Upper Elementary Teachers
Elementary Teacher Utilities
Technical Assistance Workshop

A total of 764 people received training this past year.

1986 SUMMER INSTITUTES
SPONSORED BY
THE INDIANA CONSORTIUM FOR COMPUTER AND HIGH TECHNOLOGY EDUCATION
(Call Contact Persons Listed for Full Details)

BALL STATE UNIVERSITY

Institute Name:	Advanced Logo: Artificial Intelligence
Dates:	July 14 - July 18 (Number of Openings: 15)
Contact Persons:	John Merbler (317) 285-5700 Dale Lawver: (317) 285-5700
Selection Criteria:	Must have knowledge of programming language and LOGO experience.

INDIANA STATE UNIVERSITY

Institute Name:	Administrative Utilization of Software for Data Management and Planning
Dates:	June 22 - June 28 (Number of Openings: 60)
Contact Person:	Glen J. Brown (812) 237-2905
Selection Criteria:	Request questionnaire. Preference given to advanced users.

Institute Name:	Advanced Media Center Computer Management Institute
Dates:	August 4 - August 15 (Number of Openings: 26)
Contact Persons:	James Thompson (812) 237-2937 Lawrence Reck (812) 237-2937
Selection Criteria:	Practicing media specialists. Request application.

Institute Name:	Advanced Skills in Microcomputer Utilization for School Counselors
Dates:	July 13 - July 25 (Number of Openings: 50)
Contact Person:	Lawrence Beymer (812) 237-283
Selection Criteria:	Preference given to school counselors with advanced computer experience.

INDIANA UNIVERSITY, BLOOMINGTON
(Vocational Education Services)

Institute Name:	Occudata Institute: Using the Occupational Data Analysis System Designing Vocational Programs
Dates:	July 8 - July 11 (Number of Openings: 20) July 15 - July 18 (Number of Openings: 20)
Contact Person:	James Pershing (812) 335-6711
Selection Criteria:	Preference given to applicants with curriculum and program development responsibilities. No previous experience with computers required.

INDIANA UNIVERSITY, BLOOMINGTON

Institute Name:	Applications of Computing to School Art Instruction Level II
Dates:	July 30 - August 15 (Number of Openings: 24)
Contact Person:	Guy Hubbard (812) 335-8549
Selection Criteria:	Art teachers with previous experience in computing.

Institute Name: Interactive Videodisc Training Institute
Dates: July 9 - (Number of Openings: 40)
Contact Person: Marv Ebbert (317) 264-7442
Selection Criteria: Request brochure. Participants should have completed Level I training and have knowledge of BASIC. Institute will be for secondary teachers.

Institute Name: Introduction to Pascal for School Teachers
Dates: July 7 - July 11 (Number of Openings: 24)
Contact Person: Lee Ehman (812) 335-4053
Selection Criteria: Preference given to secondary math, science and and computer science teachers.

Institute Name: Microcomputer Graphics for Art Teachers Level I
Dates: July 11 - July 29 (Number of Openings: 24)
Contact Person: Guy Hubbard (812) 335-8549
Selection Criteria: Art teachers with support of local principal.

Institute Name: Super Pilot for Teachers
Dates: June 2 - June 18 (Number of Openings: 24)
Contact Person: Lewis Polsgrove (812) 335-9779
Selection Criteria: Request questionnaire. Participants must have experience with computers.

INDIANA UNIVERSITY-PURDUE UNIVERSITY AT INDIANAPOLIS

Institute Name: Interactive Videodiscs Training Institute
Dates: August
Contact Person: Marv Ebbert (317) 264-7442
Selection Criteria: Request Brochure. Participants should have completed Level I training and have knowledge of BASIC. Institute will be for elementary teachers.

INDIANA UNIVERSITY FOR INDIANA UNIVERSITY NORTHWEST

Institute Name: Advanced Training in the Interfacing of Microcomputers in the Secondary Science Classroom
Dates: June 1 - September 30 (Number of Openings: 15)
Contact Person: Janet Woerner (219) 980-6522
Selection Criteria: Request brochure. Preference given to secondary science teachers.

Institute Name: Techniques and Applications of Microcomputer Based Laboratory
Dates: June 1 - September 30 (Number of Openings: 15)
Contact Persons: Janet Woerner (219) 980-6522
Terrence Lukas (219) 980-6522
Selection Criteria: Request brochure. Preference given to secondary science teachers throughout Indiana.

MANCHESTER COLLEGE

Institute Name:	(Untitled) Institute uses microcomputer technology as as working tool for teaching Science and Math in the secondary schools
Dates:	June 16 - June 27 (Number of Openings: 20)
Contact Persons:	L. Dwight Farringer (219) 982-2141) Albert Williams (219) 982-2141)
Selection Criteria:	Must have one year of experience teaching secondary science or math and using computers.

PURDUE UNIVERSITY/CALUMET CAMPUS

Institute Name:	An Advanced Computer Institute for School Media Specialists
Dates:	May 1 - June 30 (Number of Openings: 20)
Contact Person:	Dorothy Johnson (219) 844-0520
Selection Criteria:	Request brochure listing participant requirements.

Institute Name:	Computer Tools for Writing Instruction
Dates:	May 1 - June 30 (Number of Openings: 20)
Contact Person:	Dorothy Johnson (219) 844-0520
Selection Criteria:	Must have experience with word processing.

Institute Name:	Logo for Upper Elementary and Middle School Teachers
Dates:	May 1 - June 30 (Number of Openings: 20)
Contact Persons:	Roberta Dees (219) 844-0520 Dorothy Johnson (219) 844-0520
Selection Criteria:	Must be teachers in grades 4-8 with two years of teaching experience.

PURDUE UNIVERSITY/FORT WAYNE

Institute Name:	Developing CAD Skills for the Industrial Arts Class
Dates:	May 1 - September 30, 1986 (Number of Openings: 16)
Contact Person:	Matthew Kubik (219) 482-5716
Selection Criteria:	Must be practicing industrial arts teachers.

Institute Name:	Using the Computer to Teach Problem-Solving in the English Class
Dates:	May 1 - September 30, 1986
Contact Person:	Helen Lee (219) 482-5532
Selection Criteria:	Must be practicing secondary English teachers.

Institute Name:	Using the Computer to Teach Problem-Solving in the Social Studies Classroom
Dates:	May 1 - September 30 (20)
Contact Person:	Helen Lee (219) 482-5532
Selection Criteria:	Must be practicing secondary social studies teachers.

PURDUE UNIVERSITY/WEST LAFAYETTE

Institute Name:	Interactive Video
Dates:	April 1 - October 31 (Number of Openings: 15)
Contact Person:	James Lehman (317) 494-5670
Selection Criteria:	Must have access to computer equipment. Access to interactive video equipment is desirable.

TAYLOR UNIVERSITY

Institute Name:	Integrating Software Into Elementary Curriculum and Instruction
Dates:	July 28 - August 32 August 4 - August 8
Contact Person:	Daniel Jeran (317) 998-5200
Selection Criteria:	Participants selected from Blackford and Grant counties plus adjacent districts by local superintendents.

UNIVERSITY OF SOUTHERN INDIANA

Institute Name:	Electronic Spreadsheets for Secondary School Business Teachers
Dates:	June 23 - June 27 (Number of Openings: 20)
Contact Person:	Charles Price (812) 464-1954
Selection Criteria:	Must be high school business education teachers.

Institute Name:	Computer Enriched Social Studies
Dates:	Section I: June 16 - June 20 (Number of Openings: 20) To be held in Evansville, Indiana Section II: July 28 - Aug. 1 (Number of Openings: 20) To be held in Jeffersonville, Indiana
Contact Person:	Charles Price (812) 464-1954
Selection Criteria:	Must be social studies teachers with working knowledge of PFS:file.

Institute Name:	Microcomputers in the Science Laboratory
Dates:	June 23 - June 27 (Number of Openings: 16)
Contact Person:	Charles Price (821) 464-1954
Selection Criteria:	Must be secondary science teachers with access to Apple or Commodore computers.

Formula Allocation Program

	Requested	Not Requested
Adams Central Community Schools	1,731.00	
Alexandria Community School Corp.	2,663.00	
Anderson Community School Corp.	14,090.00	
Argos Community Schools		1,700.00
Attica Consolidated School Corp.		1,700.00
Avon Community School Corp.	3,233.00	
Barr-Reeve Community Schools	1,700.00	
Bartholomew Consolidated School Corp.	11,063.00	
Batesville Community School Corp.	2,032.00	4.00
Baugo Community Schools	1,100.00	611.00
Beech Grove City Schools	2,280.00	
Benton Community School Corp.		2,621.00
Blackford County Schools	740.00	2,609.00
Bloomfield School District		1,700.00
Blue River Valley Schools	1,700.00	
Boone Township	1,700.00	
Breman Public Schools		1,765.00
Brownsburg Community School Corporation	3,894.00	
Brownstown Central Community School Corp.	2,178.00	
C.A. Beard Memorial School Corp.		1,900.00
Cannelton City Schools	1,700.00	
Carmel Clay Schools	7,952.00	
Carr Township Schools		1,700.00
Carroll Consolidated School Corp.		1,747.00
Cass Township Schools	1,660.00	40.00
Caston School Corporation	1,700.00	
Center Grove Community School Corp.	5,258.00	33.00
Centerville-Abington Comm. Schs.	2,172.00	
Central Noble Community School Corp.	1,700.00	
Central School Dist. of Greene Co.	1,700.00	
Clark-Pleasant Community School Corp.	2,781.00	
Clarksville Community School Corporation	1,922.00	
Clay Community Schools	4,689.00	
Clinton Central School Corporation	1,700.00	
Clinton Prairie School Corporation	1,700.00	
Cloverdale Community Schools	1,180.00	520.00
Columbia City Joint High School		
Columbia City Schools	2,145.00	
Columbia Township Schools	1,700.00	
Concord Community Schools	3,866.00	
County School Corp. of Brown Co.		2,683.00
Covington Community School Corporation	1,700.00	
Crawford County Community School Corp.	2,386.00	
Crawfordsville Community Schools	2,640.00	33.00
Crothersville Community School	1,700.00	
Crown Point Community School Corp.	5,316.00	
Culver Community Schools Corp.		1,700.00
Danville Community School Corporation	2,206.00	

Decatur County Community Schools	2,901.00	
Dekalb County Central United School District		3,894.00
Dekalb County Eastern Comm. School District		2,470.00
Delaware Community School Corp.	3,595.00	
Delphi Community School Corp.	2,090.00	
Dewey Township Schools	1,700.00	
Duneland School Corporation	5,081.00	
Eagle-Union Community School Corp.	2,405.00	
East Allen County Schools	9,874.00	
East Gibson School Corporation	1,826.00	
East Noble School Corp.	4,082.00	
East Washington School Corp.	1,742.00	
Eastbrook Community School Corp.	2,330.00	
Eastern Hancock Co. Comm. Sch. Corp.	1,700.00	
Eastern Pulaski Community School Corp.		1,834.00
Eastern School District of Greene County	1,700.00	
Eastern-Howard Community School Corp.	1,700.00	
Edinburg Community School Corp.	1,700.00	
Elkhart Community Schools	11,286.00	
Elwood Community School Corp.	2,797.00	
Eminence Cons. School Corp.		1,700.00
Etna-Troy Township Schools		1,700.00
Evansville-Vanderburgh School Corp.	21,873.00	
Fairfield Community Schools	1,773.00	
Fayette County School Corporation	5,999.00	
Flat Rock Hawcreek School Corporation	1,700.00	
Fort Wayne Community Schools	30,869.00	52.00
Frankfort Community	3,437.00	
Franklin Community School Corp.	3,529.00	
Franklin County Community School Corp.		3,454.00
Franklin Township Community School Corp.	4,693.00	
Franklin Township Schools	1,700.00	
Fremont Community Schools	1,700.00	
Frontier School Corporation	1,700.00	
Garrett-Keyser-Butler Comm. Sch.	1,900.00	19.00
Gary Community School Corp.	28,673.00	
Goshen Community Schools	4,200.00	11.00
Greater Clark County Schools	11,667.00	
Greater Jasper Consolidated Schools	2,843.00	
Greencastle Community School Corp.	2,068.00	
Greenfield Central Community Schools	4,050.00	22.00
Greensburg Community School Corp.	2,621.00	
Greenwood Community School Corp.	847.00	2,630.00
Griffith Public Schools	2,894.00	
Hamilton Community Schools	1,700.00	
Hamilton Heights School Corp.	2,278.00	
Hamilton Southeastern Schools	2,477.00	
Hammond City Schools	13,446.00	
Hanover Community School Corp.	1,700.00	
Harrison-Washington Comm. Sch. Corp.	1,700.00	
Hobart, School City of	3,977.00	
Hobart Township Community School Corp.	2,255.00	
Huntington County Community Sch. Corp.	6,516.00	
Indianapolis Public Schools	43,560.00	
Jac-Cen-Del Community School Corp.	1,685.00	15.00

Jay School Corporation	4,907.00	
Jefferson Township Schools		1,700.00
Jennings County School Corp.	4,723.00	
John Glenn School Corporation	2,014.00	
Kankakee Valley School Corp.	3,244.00	
Knox Community School Corp.	1,950.00	637.00
Kokomo-Center Township School Corp.	9,168.00	
Lafayette School Corporation	7,764.00	
Lake Central School Corp.	5,007.00	1,225.00
Lake Ridge Schools	3,477.00	
Lake Station Community Schools		2,274.00
Lakeland School Corporation	2,573.00	
Laporte Comm. School Corporation	6,599.00	
Lawrenceburg Community School Corp.	2,135.00	
Lebanon Community School Corp.	3,490.00	
Liberty-Perry Community School Corp.	1,795.00	
Linton-Stockton School Corporation	1,806.00	
Logansport Community School Corp.	5,039.00	
Loogootee Community School Corp.	1,700.00	
MSD Bluffton-Harrison	2,090.00	
MSD Decatur Township	6,018.00	1.00
MSD Lawrence Township	9,671.00	75.00
MSD Martinsville Schools	5,759.00	
MSD Mount Vernon	3,118.00	
MSD North Posey County Schools	2,076.00	
MSD Perry Township	13,004.00	
MSD Pike Township	4,132.00	
MSD Shakamak Schools		1,700.00
MSD Southwest Allen County	3,372.00	
MSD Steuben County	2,781.00	
MSD Wabash County Schools	3,385.00	
MSD Warren Township	11,075.00	345.00
MSD Washington Township	10,210.00	
MSD Wayne Township	14,120.00	
MSD Warren County	1,919.00	
Maconaquah School Corp.	3,152.00	
Madison Consolidated Schools	3,809.00	
Madison-Grant United School Corp.	2,424.00	
Manchester Community Schools	2,200.00	3.00
Marion Community Schools	7,783.00	
Marion-Adams Schools	1,700.00	
Merrillville Community School	5,715.00	8.00
Michigan City Area Schools	9,104.00	
Middlebury Community Schools	2,500.00	331.00
Milan Community Schools	1,700.00	
Mill Creek Community School Corp.		2,065.00
Mississinewa Community Schools Corp.	2,963.00	
Mitchell Community Schools		2,560.00
Monroe Central School Corp.	1,700.00	
Monroe Community School Corp	1,700.00	
Monroe Co. School Corporation	10,412.00	
Monroe-Gregg School District		1,877.00
Mooresville Consolidated School Corp.	3,878.00	
Morgan Township Schools	1,700.00	
Mt. Pleasant Township Comm. Sch. Corp.	2,510.00	

Mt. Vernon Community School Corp.	2,662.00	
Muncie Community Schools	9,870.00	959.00
Munster, School Town of	3,356.00	
Nettle Creek School Corp.	1,820.00	
New Albany-Floyd County Cons. Sch.	11,122.00	
New Castle Community School Corp.	5,348.00	10.00
New Durham Township Schools	1,700.00	
New Harmony Town and Township Cons. Sch.	815.00	885.00
New Prairie United School Corp.		2,553.00
Nineveh-Hensley-Jackson United Schools		2,033.00
Noblesville Schools	4,310.00	29.00
North Adams Community School	2,669.00	
North Central Community School Corp.	2,624.00	
North Daviess County Community Sch.		1,732.00
North Gibson School Corporation	2,726.00	
North Judson-San Pierre School Corp.	1,960.00	
North Knox School Corp.	2,199.00	
North Lawrence Community School	5,973.00	
North Miami Community Schools	1,780.00	
North Montgomery Community School Corp.	2,256.00	162.00
North Newton School Corp.	2,386.00	
North Putnam Community Schools	1,733.00	148.00
North Spencer County School Corp.	2,459.00	
North Vermillion Community School Corp.	1,700.00	
North White School Corp.	1,700.00	
Northeast Dubois County School Corp.	1,700.00	
Northeast School Corp.		2,374.00
Northeastern Wayne Schools	1,780.00	
Northern Community School of Tipton Co.		1,700.00
Northern Wells Community Schools	2,755.00	
Northwest Allen County Schools	2,799.00	
Northwest Hendricks Schools	1,813.00	
Northwestern Consolidated School Corp.	2,132.00	
Northwestern School Corp. of Henry Co.	2,053.00	
Northwestern School Coporation	2,276.00	
Northwestern Wayne Schools	1,780.00	
Oak Hill United School Corp.	2,174.00	
Oregon-Davis School Corporation	1,700.00	
Orleans Community Schools	1,700.00	
Paoli Community School Corp.	2,093.00	
Penn-Harris-Madison School Corp.	6,819.00	
Perry Central Community School Corp.	1,673.00	27.00
Peru Community Schools		3,197.00
Pike County School Corp.	2,670.00	
Pioneer Regional School Corporation	1,659.00	41.00
Plainfield Community School Corp.	3,429.00	
Pleasant Township Schools	1,700.00	
Plymouth Community School Corp.	3,061.00	
Portage Township Schools	9,003.00	30.00
Porter Township School Corp.	1,159.00	743.00
Prairie Heights Comm. School Corp.	2,068.00	
Randolph Central School Corp.	2,540.00	
Randolph Eastern School Corp.	1,700.00	
Randolph Southern School Corp.	1,700.00	
Rensselaer Central School Corp.	2,171.00	2.00

		2,936.00
Richland-Bean Blossom Comm. Sch. Corp.	7,860.00	89.00
Richmond Community School Corp.	1,700.00	
Rising Sun-Ohio Co. Comm.		2,281.00
Rochester Community School Corporation	1,700.00	
Rockville Community Schools	1,700.00	
Rossville Consolidated School District	3,612.00	
Rushville Consolidated Schools	1,700.00	
Salem Community School	2,548.00	
Salem Community Schools	7,561.00	
School City of East Chicago	5,691.00	
School City of Mishawaka	4,013.00	
School Town of Highland	2,113.00	
Scott County School District 1	3,048.00	
Scott County School District 2	4,247.00	
Seymour Community Schools	250.00	1,892.00
Shelby Eastern Schools	3,469.00	274.00
Shebyville Central Schools	1,700.00	
Shoals Community School Corp.	1,792.00	
Smith-Green Community Schools		1,894.00
South Adams Schools	2,130.00	17.00
South Bend Community School Corp.	1,700.00	
South Central Community School Corp.	3,248.00	
South Dearborn Community School		2,069.00
South Gibson School Corporation	3,119.00	
South Harrison Community School		1,700.00
South Henry School Corp.	1,690.00	10.00
South Knox School Corp.	3,680.00	
South Madison Community School Corp.	800.00	1,585.00
South Montgomery Community School Corp.		1,700.00
South Newton School Corporation	1,719.00	
South Putnam Community Schools	1,819.00	
South Ripley Community School Corporation	2,052.00	11.00
South Spencer County School Corp.	2,166.00	
South Vermillion Community School Corp.	1,700.00	
Southeast Dubois County School Corp.	1,862.00	
Southeast Fountain School Corp.	2,047.00	
Southeastern School Corporation	2,438.00	
Southern Hancock Co. Comm. School Corp.	1,700.00	
Southern Wells Community Schools	2,046.00	
Southwest Dubois County School Corp.	1,700.00	
Southwest Park Community School Corp.	2,389.00	
Southwest School Corporation	1,621.00	79.00
Southwestern Dist. of Shelby Co.	2,048.00	
Southwestern-Jefferson County Cons.		1,777.00
Speedway City Schools	2,980.00	
Spencer-Owen Community Schools	1,700.00	
Springs Valley Comm. School Corp.	1,966.00	1,385.00
Sunman-Dearborn Community School Corp.	1,842.00	
Switzerland County School Corp.	2,015.00	413.00
Taylor Community School Corp.	2,529.00	13.00
Tell City-Troy Township School Corp.	1,700.00	
Thorncreek Township School Corp.	7,589.00	
Tippecanoe School Corp.	2,435.00	
Tippecanoe Valley School Corp.	2,523.00	
Tipton Community School Corp.		

Tri-County School Corp.		1,700.00
Tri-Creek School Corp.	3,462.00	
Triton School Corporation	1,700.00	
Turkey Run Community School Corp.	1,700.00	
Twin Lakes School Corporation	3,111.00	
Union County School Corp.	2,095.00	
Union School Corporation	1,700.00	
Union Township School Corporation	1,756.00	
Union Township Schools		
Union Township Schools	1,700.00	
Union-North United School Corp.	1,894.00	1.00
Valparaiso Community Schools	5,028.00	
Vigo County School Corp.	17,512.00	
Vincennes Community School Corp.	3,718.00	
Wa-Nee Community Schools	3,050.00	
Wabash City Schools	2,406.00	
Warrick County School Corp.		9,180.00
Warsaw Community Schools	5,707.00	2.00
Washington Community Schools	2,806.00	
Washington Township Schools	1,700.00	
Washington Township Schools	1,700.00	
Washington-Stafford Consolidated	1,700.00	
Wawasee Community School Corp.	3,431.00	
West Central Community School Corp.	2,982.00	
West Central School Corp.	1,200.00	500.00
West Clark Community Schools	3,667.00	
West Lafayette Community School Corp.	2,248.00	
West Noble School Corp.	2,399.00	
West Washington School Corp.	1,700.00	
Western Boone County Comm. Sch. Dist.	2,219.00	
Western School Corp.	2,796.00	
Western Wayne	1,828.00	
Westfield-Washington Schools	1,780.00	
Westview School Corporation	2,220.00	
Whiting School City		1,700.00
Whitko Community School Corp.	2,501.00	
Worthington-Jefferson Cons. School		1,700.00

SCHOOL TECHNOLOGY ADVANCEMENT ACCOUNT

LOANS FOR PERIOD ENDING JUNE 30, 1987

CORPORATION NUMBER	CORPORATION NAME	AMOUNT OF LOAN
01-0025	North Adams Community Schools	$ 55,500
02-0235	Fort Wayne Community Schools	400,000
02-0255	East Allen County Schools	278,276
09-0775	Pioneer Regional School Corporation	34,731
18-1910	Mt. Pleasant Township Comm. Schools	61,933
20-2305	Elkhart Community Schools	336,660
20-2315	Goshen Community Schools	64,000
26-2735	North Gibson	30,000
28-2930	Central School District	20,000
29-3030	Westfield Washington Schools	44,477
29-3055	Marion Adams Schools	34,741
30-3125	Greenfield-Central Community	91,395
32-3330	Plainfield Community	93,067
34-3480	Eastern Howard School Corporation	38,686
* 34-3490	Western School Corporation	20,000
43-4345	Wawasee Community School Corporation	40,000
44-4515	Prairie Heights Community School	20,000
* 45-4690	Gary Community School Corporation	670,784
45-4580	Hanover Community School Corporation	39,868
45-4710	School City of Hammond	394,946
45-4720	School Town of Highland	113,137
46-4805	New Prairie United School Corporation	43,040
46-4940	South Central Community School	20,000

46-4945	LaPorte Community School Corporation	191,164
48-5265	Alexandria Community School	50,000
48-5280	Elwood Community School Corporation	70,649
49-5330	MSD of Lawrence Township	267,713
49-5360	MSD of Warren Township	277,308
49-5380	School City of Beech Grove	39,500
50-5480	Bremen Public Schools	25,000
52-5625	Oak Hill United School Corporation	35,000
55-5925	MSD of Martinsville	45,000
55-5930	Mooresville Consolidated School Corp.	93,703
64-6530	Union Township School Corporation	43,811
64-6560	Valparaiso Community Schools	97,150
67-6705	South Putnam Community School Corporation	26,000
69-6895	Batesville Community School Corporation	47,640
71-7150	John Glenn School Corporation	47,668
71-7175	Penn-Harris-Madison	200,714
71-7200	School City of Mishawaka	112,000
72-7255	Scott County School District 2	78,761
76-7605	Fremont Community Schools	31,205
79-7855	Lafayette School Corporation	229,023
81-7950	Union County School Corporation	45,750
		$ 5,000,000

* approved by State Board on October 2, 1986

all others were approved on September 4, 1986